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S. W. G.

Medford

Tulare-Co' CAL. U-S-A

VOL. XVII. NO. 23.

DEC. 1, 1889.

PEACE • ON • EARTH • & • GOOD • WILL • TOWARD • MEN



CLEANING
IN

BEE CULTURE

DEVOTED
TO
THE
BEE

& HOME INTERESTS.

MEDINA, OHIO

BY

ALFRED

TERMS, ONE DOLLAR PER YEAR.

ENTERED AT THE POSTOFFICE, MEDINA, OHIO, AS SECOND-CLASS MATTER.

GLEANINGS IN BEE CULTURE.

ADVERTISEMENTS.

We require that every advertiser satisfy us of responsibility and intention to do all that he agrees, and that his goods are really worth the price asked for them. Patent-medicine advertisements, and others of a like nature, can not be inserted at any price.

Rates for Advertisements.

All advertisements will be inserted at the rate of 20 cents per line, Nonpareil space, each insertion; 12 lines of Nonpareil space make 1 inch. Discounts will be made as follows:

On 10 lines and upward, 3 insertions, 5 per cent; 6 insertions, 10 per cent; 9 insertions, 15 per cent; 12 insertions or more, 20 per cent; 24 insertions or more, 25 per cent.

On 48 lines (½ column) and upward, 1 insertion, 5 per cent; 3 insertions, 10 per cent; 6 insertions, 15 per cent; 9 insertions, 20 per cent; 12 insertions, or more, 25 per cent; 24 insertions or more, 33½ per cent.

On 48 lines (whole column) and upward, 1 insertion, 5 per cent; 3 insertions, 15 per cent; 6 insertions, 20 per cent; 9 insertions, 25 per cent; 12 insertions, or more, 33½ per cent; 24 insertions or more, 40 per cent.

On 48 lines (whole page), 1 insertion, 15 per cent; 3 insertions, 20 per cent; 6 insertions, 25 per cent; 9 insertions, 30 per cent; 12 insertions or more, 40 per cent; 24 insertions or more, 50 per cent.

Special discount for electrotype advertisement.

A. I. ROOT.

ADVERTISING LIST.

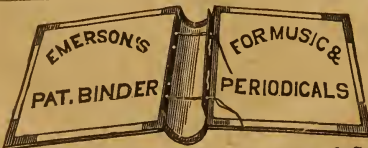
GLEANINGS—

Can Bee Journal, W'y	(\$1.00)	\$1.75
Can Bee Journal, W'y	(1.00)	1.75
ve,	(.30)	1.20
Keepers' Review,	(.50)	1.40
Bee-Journal,	(1.50)	2.40
ve journa		6.40
icul	(\$1.00)	1.70
Ad		
ulturist,	(.50)	1.45
en,	(\$1.50)	2.25
ker,	(2.00)	2.60
	(1.50)	2.35
frican,	(2.00)	2.90
	(.50)	1.20
ning,	(3.00)	3.75
ostal Guide,	(2.00)	1.90
l Times, weekly,	(1.00)	1.85
arm Journal,	(1.50)	2.25
e Journal,	(.50)	1.75
arden,	(.30)	1.75
	(1.00)	1.75
de all Postage in U. S. ar	(.50)	1.40

and Canada.]

EGGS, \$1.00 PER DOZEN.

From White Leghorns and White Plymouth Rocks. Also a few cockerels, cheap. C. W. CHAPMAN, Medina, Ohio. Reference, A. I. Root.



You can not look over the back No's of GLEANINGS, or any other periodical with satisfaction, unless they are in some kind of a binder. Who has not said—"Dear me, what a bother—I must have last month's journal and it is nowhere to be found?" Put each No. in the Emerson binder as soon as it comes, and you can sit down happy, any time you wish to find anything you may have previously seen, even though it were months ago.

Binders for GLEANINGS (will hold them for one year) gilt lettered, for 60 cts.; by mail, 12 cts. extra. Ten, \$5.00; 100, \$45.00. Table of prices of binders for any periodical, mailed on application. Send in your orders. A. I. ROOT, Medina, Ohio.

Names of responsible parties will be inserted in any of the following departments, at a uniform price of 20 cents each insertion, or \$2.00 per annum, when given once a month, or \$4.00 per year if given in every issue.

Untested Queens

FOR \$1.00 FROM JULY 1ST TILL NOV. 1ST.

Names inserted in this department the first time without charge. After, 20c each insertion, or \$2.00 per year.

Those whose names appear below agree to furnish Italian queens for \$1.00 each, under the following conditions: No guarantee is to be assumed of purity, or anything of the kind, only that the queen be reared from a choice, pure mother, and had commenced to lay when they were shipped. They also agree to return the money at any time when customers become impatient of such delays as may be unavoidable.

Bear in mind, that he who sends the best queens, put up most neatly and most securely, will probably receive the most orders. Special rates for warranted and tested queens, furnished on application to any of the parties. Names with * use an imported queen-mother. If the queen arrives dead, notify us and we will send you another. Probably none will be sent for \$1.00 before July 1st, or after Nov. 1st if wanted sooner, or later, see rates in price list.

*A. I. Root, Medina, Ohio.

*H. H. Brown, Light Street, Col. Co., Pa. 7tfd89

*Paul L. Viallon, Bayou Goula, La. 7tfd89

*S. F. Newman, Norwalk, Huron Co., O. 7tfd89

*Jos. Byrne, Ward's Creek, East Baton Rouge

7tfd Par., La.

C. C. Vaughn, Columbia, Tenn. 2tfd88

Wm. L. Ashe, Edwardsville, Mad. Co., Ill. 1tfd88

J. M. Jenkins, Wetumpka, Ala. 9tfd89

*Oliver Hoover & Co., Snyderstown, Northum-

1tfd89 berland Co., Pa.

Abbott L. Swinson, Goldsboro, Wayne Co., N. C. 5tfd

C. R. Mitchell, Ocala, Marion Co., Fla. 9tfd89

E. Burke, Vincennes, Knox Co., Ind. 9-8-1890

N. A. Knapp, Rochester, Lorain Co., O. 15tfd89

D. A. McCord, Oxford, Butler Co., Ohio. 11-21 '89

Hive Manufacturers.

Who agree to make such hives, and at the prices named, as those described on our circular.

A. I. Root, Medina, Ohio.

P. L. Viallon, Bayou Goula, Iberville Par., La 7tfd89

C. W. Costellow, Waterboro, York Co., Me. 7tfd-89

R. B. Leahy, Higginsville, Laf. Co., Mo. 21tfd88

J. M. Jenkins, Wetumpka, Ala. 9tfd89

FLAT - BOTTOM COMB FOUNDATION.

High side-walls, 4 to 14 square inches to the pound. Circular and square.

J. VAN DEUSEN & SONS

5tfd Sole Manufacturers

SPROUT BROOK, MONTICELLO, N. Y.

In responding to this advertisement, mention GLEANINGS.

MUTH'S HONEY-EXTRACTOR,

SQUARE GLASS HONEY-JARS,

TIN BUCKETS, BEE-HIVES,

HONEY-SECTIONS, &c., &c.

REFLECTION COLD-BLAST SMOKERS.

Apply to CHAS. F. MUTH & SON,

CINCINNATI, O.

S.—Send 10-cent stamp for "Practical Hints to

3-Keepers." (Mention Gleanings.) 1tfd8

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RERUM COGNOSCERE CAUSAS,

To know the Causes of Things, is the key to Success in any industry. If you wish to succeed in the **Bee Business**, you must read and become acquainted with the most Successful Methods of Bee-Management and Honey-Production.

LANGSTROTH'S WORK,

REVISED BY DADANT,

Contains the result of **practical experience** with Bees. It gives the Physiology of the Bee, with numerous **Quotations** from the latest Scientific Writers, the Description of the **best Hives**, Directions for the Proper Management and Handling of Bees; the most **Practical Methods of Queen-Rearing, Swarming** (Natural and Artificial), with controlling methods; instructions on Establishing Apiaries, Transferring, Shipping, Mailing, Feeding, Wintering; the best methods of producing **Comb and Extracted Honey**, the Handling and Harvesting of Honey, the Making of Comb Foundation, etc., etc.

The instructions for the **Rendering of Beeswax** are alone worth the price of the Book, to many bee-keepers who waste a part of their wax in rendering it.

This book, "the most complete ever published," is shortly to be published in the French, Italian, and German Languages, by Practical European Apiarists. It is highly recommended by all publishers of Bee-Literature in the Old World as well as in the New.

Cloth Binding, 550 Pages, 199 Engravings, 19 Full-Page Plates. Gilt front and back. This book is an Ornament to any Library.

Price: By Express, \$1.85. By mail, prepaid, \$2.00. Special prices to Dealers who wish to advertise it in their circulars.

We also offer for Sale, 20,000 Lbs. of Honey, of our crop of 1889; **25 Tons of Comb Foundation**, Smokers, Bee-Veils of Imported Material, etc. Send for Circular. Address

3tfdb **CHAS. DADANT & SON,**

Hamilton, Hancock Co., Illinois

In responding to this advertisement mention GLEANINGS.

SAVE FREIGHT.

BUY YOUR SUPPLIES NEAR HOME AND SAVE FREIGHT.

We carry a complete stock of Apian Supplies. Our motto: Good goods and low prices. Illustrated catalogue for your name on a postal card.

R. B. LEAHY & CO., Higginsville, Mo.

In responding to this advertisement mention GLEANINGS.

BEE-HIVES, SECTIONS, ETC.

We are now selling our No. 1 V-groove sections, in lots of 500, at \$3.00 per 1000; No. 2 sections at \$2.00 per 1000. For price of Italian queens, foundation, smokers, etc., send for price list.

J. STAUFFER & SONS,
Successors to B. J. Miller & Co.,

16tfdb

Nappanee, Ind.

In responding to this advertisement mention GLEANINGS.

HOME EMPLOYMENT. — AGENTS wanted every where, for the **HOME JOURNAL**—a grand family paper at \$1 a year. *Big cash premiums.* Sample FREE. **THOS. G. NEWMAN & SON,** 923 & 925 West Madison Street, - CHICAGO, ILLS.

In responding to this advertisement mention GLEANINGS.

TAKE NOTICE!

BEFORE placing your Orders for **SUPPLIES**, write for prices on One-Piece Basswood Sections, Bee-Hives, Shipping-Crates, Frames, Foundation, Smokers, etc. Address

R. H. SCHMIDT & CO.,

21-20db

NEW LONDON, Waupaca Co., WIS.

In responding to this advertisement mention GLEANINGS.

Wants or Exchange Department.

Notices will be inserted under this head at one-half our usual rates. All ads intended for this department must not exceed 6 lines, and you must say you want your ad in this department, or we will not be responsible for any error. You can have the notice as many lines as you please; but all over five lines will cost you according to our regular rates. This department is intended only for bona-fide exchanges. Exchanges for cash or for price lists, or notices offering articles for sale can not be inserted under this head. For such our regular rates of 20 cts. a line will be charged, and they will be put with the regular advertisements.

WANTED.—To exchange honey for beeswax. We will take beeswax in exchange for honey in any quantity. Will give three pounds for one. Write for particulars. **CHAS. DADANT & SON,** 18tfdb **Hamilton, Hancock Co., Ill.**

WANTED.—To exchange a 24-inch Kaestner feed-mill for small planer, V-groove section machine (Root's), or offers. **GEO. RALL,** 22-23 **Frenchville, Wis.**

WANTED.—To exchange 200 colonies of bees, 2 foot-power saws, and one foundation-mill and tanks, for any thing useful on plantation. 22tfdb **ANTHONY OPP, Helena, Ark.**

WANTED.—To exchange No. 1 sections for extracted honey or beeswax. **M. H. HUNT,** 22-23 **Bell Branch, Mich.**

WANTED.—To exchange a Barnes combined foot-power saw, for extracted honey. A good machine, cheap, used but little; cost \$35.00; price now, \$18.00. Please write at once. **GEO. BEEDE, Sandwich, N. H.**

WANTED.—To exchange a Perfect Hatcher incubator, capacity 750 eggs, Japanese buckwheat, and Kaffir corn, for honey. **CHAS. D. DUVAL,** 22 23d **Spencerville, Montgomery Co., Md.**

WANTED.—To exchange two saw-tables designed for making dovetailed sections, for sections. **W. S. WRIGHT, Battle Creek, Mich.**

WANTED.—To exchange Japanese buckwheat at 75c per bushel, or No 1 sections, for extracted honey. **W. D. SOPER, Jackson, Mich.**

WANTED.—To exchange a fine-blooded stallion for Italian bees. Will take a quantity of sections and foundation. A bargain for somebody. **J. H. JOHNSTON, Leclair, Iowa.**

WANTED.—To exchange complete photograph outfit, for Barnes foot-power saw. **F. SHILLING, Jewett, Harrison Co., Ohio.**

WANTED.—To exchange wood-engraving tools for carving-tools. **E. V. WHITTLESV.,** **Pecatonica, Winnebago Co., Ill.**

WANTED.—To exchange a new foot-power saw for extracted white-clover or basswood honey. 23d **W. S. WRIGHT, Battle Creek, Mich.**

WANTED.—To exchange, Barnes foot-power buzz saw, latest pattern, one Parker Bros. shotgun, B. L. new, for type-writer or any thing can use in family. **ADOLPHUS NEWTON,** 23d **Box 911, Norwich, Chenango Co., N. Y.**

HONEY COLUMN.

CITY MARKETS.

CINCINNATI.—*Honey.*—There is a large amount of comb honey on our market. Sales have been slow lately and prices are easier. It is held at 14@16c for best white in the jobbing way. Extracted honey brings 5@6 on arrival. *Beeswax.*—Demand is good at 20@22 for good to choice yellow on arrival.

CHAS. F. MUTH & SON,
Cincinnati, Ohio.

Nov. 22.

KANSAS CITY.—*Honey.*—Honey is selling very slow, especially extracted. We attribute the cause some to the mild weather. We quote: 1 lb., white comb at 13@14; 1 lb., dark, 10@12; 2 lb., white, 12@13; 2 lb., dark, 10@11. Extracted, white, 7@8. *Beeswax.*—22c.

CLEMONS, CLOON & CO.,

Nov. 22.

Kansas City, Mo.

BOSTON.—*Honey.*—Honey is selling a little slow. Fancy white one-pound combs jobbing, 16@17c; common, 15@16; extracted, 8@9. *Beeswax.* 24.

BLAKE & RIPLEY,

Nov. 27.

57 Chatham St., Boston, Mass.

ST. LOUIS.—*Honey.*—Market steady. Better inquiry. Comb, 12½@14 for choice; 8@10 for inferior. Choice extracted, 5½@6; dark, 5@5½. *Beeswax.*—Prime, 22.

D. G. TUTT GROCER CO.,

Nov. 22.

St. Louis, Mo.

ALBANY.—*Honey.*—The market is slow and weak. White clover, 13@14; mixed, 11@12; buckwheat, 9@11. Extracted, light, 8; dark, 6.

Nov. 22.

H. R. WRIGHT, Albany, N. Y.

DETROIT.—*Honey.*—White comb honey in fair demand at 13@15c. Fall made, 12@13. *Beeswax.* 24@25.

Nov. 22.

M. H. HUNT, Bell Branch, Mich.

FOR SALE.—Six 60-lb. square cans, heart's-ease honey, crated. Will take 7½c at Hamilton, Caldwell Co., Mo.

C. B. TAWING,

Evanston, Cook Co., Ill.

FOR SALE.—Three 60-lb. cans of honey like the sample sent you (fair); I will take \$5.00 per can for it on board the cars in Addison.

THADDEUS FISK, Addison, Lenawee Co., Mich.

FOR SALE.—300 lbs. white-clover and 350 lbs. golden-rod comb honey, at 15c and 12½c respectively, put up in 12, 14, and 20 lb. crates. Would exchange some for good extracted honey.

L. J. TRIPP,

23d

Kalamazoo, Kalamazoo Co., Mich.

FOR SALE.—17 kegs of clover honey that hold 15 gallons each, or 177 lbs. each net. I would like to get 8c for it here on track, no charge for kegs.

MONT WYRICK, Cascade, Dubuque Co., Iowa.

FOR SALE.—Three barrels of clover honey of about 600 lbs. each, about 1800 lbs., for which I will take 7c per lb. here on board cars.

GEO. W. CAVE, Kirkwood, Warren Co., Ill.

CONVENTION NOTICES.

The next annual meeting of the Vermont Bee-keepers' Association will be held at Burlington, Vt., Jan. 22, 1890.

J. H. LARRABEE, Sec'y.

The first annual joint meeting of the bee-keepers of Huron and Tuscola Counties will be held Dec. 15, 1889, at Sebewaing, Huron County, Mich. The committee has secured a fine hall, which will be at our disposal during the convention. The hall is at and in connection with the Union House, and is known as Concordia Hall. We earnestly ask all interested bee-keepers to be present, and help to make this our first convention, a success.

J. G. KUNDINGER, Cor. Sec'y.

REDUCED RATES OF TRAVEL TO THE CONVENTION AT BRANTFORD, DEC. 4, 5, AND 6.

Applications for railroad certificates are pouring in, and the prospects are very bright indeed. Our friends in the United States can get reduced rates only on Canadian railways. Upon Canadian Pacific Railway and the Grand Trunk they must repurchase to the nearest Canadian point, and from there to Brantford a ticket with a certificate. Those traveling on the C. P. R. can purchase a ticket for Woodstock or Galt, and then to Brantford via G. T. R. When two railway lines are used, two certificates to fill out must be secured from me. At Brantford the following hotel rates have been secured at the Kirby House: Regular rates, \$2.00; rate to members, \$1.50. Commercial Hotel, regular rate, \$1.00; rate to members, 75 cts. per day.

Both hotels are within less than a block of the City Hall, at which place the convention will be held, Dec. 4, 5, 6, 1889. There is a sample-room for the display of honey bee-keepers' supplies, etc., so all should bring something.

R. F. HOLTERMANN, Sec'y.

KIND WORDS FROM OUR CUSTOMERS.

Please mail me three or four of your seed catalogues as soon as out, and I will hand them to friends with my opinion. My seeds were of the very best, and a half cheaper than elsewhere. I can send orders for \$100 worth of seeds alone.

Lewiston, Ida., Nov. 10, 1889.

L. A. PORTER.

HOW TO FIND A CUSTOMER FOR HONEY.

You need not put my advertisement in again. The postals and letters come in nearly as fast as I could read them. If you have more than you want of honey, just tell it in GLEANINGS, and away she goes. I received letters of inquiry before I received GLEANINGS. I was "just astonished, I was." The advertisement, "Bees for Sale," you may omit.

Elsie, Mich., Nov. 24, 1889.

N. L. HIGBIE.

A few weeks ago I wrote a second time to have GLEANINGS stopped. You very kindly did so, or, rather, I should say you were kind enough to send your check for \$1.00 for the year when I did not want it. Really this is too generous. I read your paper all that time, and think I got my \$1.00 worth of information; so I return your check, with a feeling that I have at last found what is popularly not supposed to exist; viz., an editor with a soul. Perhaps it may be of interest to you to know that GLEANINGS is on file here in the Agricultural reading-room, and also that Prof. Comstock conducts a summer course in apiculture in the university.

Ithaca, N. Y., Oct. 9, 1889. J. VAN WAGENEN, JR.

Save 10 Per Cent.

SAVE TEN PER CENT AND ORDER YOUR SUPPLIES THIS MONTH.

We carry a complete stock of Sections, Hives, Smokers, etc. Illustrated catalogue for your name on a postal card.

R. B. LEAHY & CO.,

23-1db

Higginsville, Mo.

In responding to this advertisement mention GLEANINGS.

FOR SALE!

One of the best located apiaries in Iowa, 150 Colonies, in Langstroth hives. Handsome two-story frame residence. Twenty acres land. All necessary out-buildings. Also fine flock White Wyandottes. Two cows, nice span driving horses. Never a failure of honey. White clover, basswood, golden-rod, buckwheat, etc. House nearly new, nicely decorated paper, a very pleasant home. Price \$2500.

C. A. SAYRE,

231fdb

Sargent, Floyd Co., Iowa.

In responding to this advertisement mention GLEANINGS.

DOOLITTLE

Wants You, reader, to turn to page 533 of GLEANINGS for July 1st and read his article, and A. I. Root's comments thereon; then if you are interested in Rearing Queens, or in their Safe Introduction, send \$1.00 for this cloth-bound book of 170 pages. Address G. M. DOOLITTLE,

Rosodino, Onon. Co., N. Y.

In responding to this advertisement mention GLEANINGS.

WANTED.—To exchange one M. C. Henley Fence machine, almost new, for honey, or supplies, or any thing I can use. GEO. R. STEWART, New Florence, Westm'd Co., Pa.

WANTED.—To exchange Winchester repeating rifle, 22 cal.; a splendid target gun, in good order, for apiary supplies. GEO. W. MILSE, Teepleville, Pa.



Vol. XVII.

DEC. 1, 1889.

No. 23.

TERMS: \$1.00 PER ANNUM, IN ADVANCE;
2 Copies for \$1.50; 3 for \$2.75; 5 for \$4.00;
10 or more, 75 cts. each. Single num-
ber, 5 cts. Additions to clubs may be
made at club rates. Above are all to
be sent to ONE POSTOFFICE.

Established in 1873.

PUBLISHED SEMI-MONTHLY BY

A. I. ROOT, MEDINA, OHIO.

Clubs to different postoffices, NOT LESS
than 90 cts. each. Sent postpaid, in the
U. S. and Canadas. To all other coun-
tries of the Universal Postal Union, 18
cts. per year extra. To all countries
NOT of the U. P. U., 42 cts. per year extra.

OUT-APIARIES, NO. XX.

GENERAL REMARKS—PICNIC DINNERS, ETC.

HAVING talked over the main ground of what is peculiar to the work of out-apiaries, I want the liberty of a little desultory talk. I find there is a growing feeling among beekeepers that they want to keep a smaller number of colonies in an apiary for best results, and, somewhat as a result, the number of out-apiaries is on the increase. I am not so sure that some are not making mistakes. What is just right for one man is not always best for another. With your time and surroundings it may be better for you to limit or lessen the number in your home apiary and confine yourself to that. You may be very successful in a single apiary, doing all the work yourself, and make a dismal failure if you attempt to run a number. Then it's one thing to have a force of hands present with you all the time, going from apiary to apiary, and quite another to have each apiary separately manned. Feel your way, and find out just what *you* can best do.

In the new Langstroth on the Honey-Bee, so excellently revised by Dadant, he very wisely says: "Do not put your bees on land which is tenanted. Let them be placed at some responsible farmer's own home, for a tenant may leave on short notice, and you can not remove your bees at all seasons." I may add, that it is much pleasanter to go each year to the same place, as you get better acquainted.

When you leave for the winter, be sure that every thing is picked up and left in neat shape at the out-apiary—nothing to offend the eye of the farmer's good wife every time it happens to stray in that direction. And here I must confess the superiority of womankind. Many a time when the shop or apiary appears to be in dire confusion, I say to my

wife or Emma, "It's a hopeless case. You're welcome to all the physical strength I have—tell me just what you want me to do, and I'll obey orders implicitly, but don't ask me to engineer the thing."

Another thing in which a woman's presence and skill are appreciated is in the matter of lunch. Of all the meals we eat, I think none are enjoyed so much as the dinners at the out-apiaries. Of course, every thing is cold, but the weather is such that we're not anxious for hot things. Under the shade of the trees in the pure air, a cloth is spread on some hive-covers, at a safe distance from the hives, so no scolding bees will be around, and the few articles of food are placed thereon, with no superfluous garniture in the way of dishes beyond what are actually needed; seats are taken, God's blessing asked, and we eat with a relish that might well be envied by those who sit before carved tables loaded with costly viands in dishes of silver and gold.

Sometimes our work is such that we visit one out-apiary in the forenoon and another in the afternoon; and by way of variation we stop at some pleasant point on the road between, and, without leaving our seats, eat our dinner. I say *dinner* rather than *lunch*, because it is the principal meal of the day. Although it may not be convenient, if indeed it were best, to have a great variety at one of these out-door meals, the bill of fare from which we may select for different days is by no means small, including cold meats of all kinds, the different canned goods including fruits, fish, oysters, etc., fresh berries, sandwiches, bread and butter, boiled eggs, morning's milk in a Mason fruit-can, cold asparagus, peas, beans, etc.

You can see that it's a sort of picnic every day. I must say that, if even the plan of having each one isolated at a separate apiary were just a little more profitable, I should still prefer to keep the crowd together, and I should want no discordant element,

as nearly as possible just like a family, and all having such an interest in the work as to make it a pleasure to talk over together the plans and prospects.

C. C. MILLER.

Marengo, Ill.

Friend M., there is one thing in your remarks that takes a mighty hold on your old friend A. I. Root. God's blessing is asked on the cold lunch spread on top of a beehive. No matter how busy you are—no matter how commonplace may be your surroundings, in the middle of the day and in the midst of the work you all agree to come to order, or, if you choose, you call yourselves to order while the divine blessing is invoked. I know we do not always feel like it; at least (and I am ashamed to say it) I do not always feel like it; but that is the very time when it is of the utmost importance that we bow our heads in reverence to the great Ruler over all. Asking the blessing seems to settle the troubled waters, and it always has the effect of making all the good there is in me come uppermost or to the surface, and also of making all that is bad or wrong go away out of sight. If I had been cherishing a wrong feeling when it comes time to ask a blessing, the wrong feeling must be put away, crowded down out of sight. Nine times out of ten it stays down out of sight, and perhaps never shows itself again. Perhaps some new reader of GLEANINGS may inquire, "Well, what has all this to do with out-apiaries?" Simply this, my friend: It will oftentimes of *itself* decide between success and failure.

SETTING BEES IN THE CELLAR, ETC.

FRIEND DOOLITTLE GIVES US SOME GOOD HINTS ON A SEASONABLE MATTER.

I AM frequently asked which is best, a cold day or a warm one, to set bees in the cellar; and I invariably reply, that I prefer the warm one. I never set bees in the cellar when they went in with as little trouble as this year. Two days before, they had a nice fly, the mercury going to 63° in the shade, with scarcely a cloud or a bit of wind. That night and the next day the weather was very drying, while on the morning of the second day it looked as if fixing for a storm. I said to myself, "Now is the time to put the bees in the cellar;" but upon looking at the thermometer I found that it marked 52°, while bees can fly at 45°. I was a little afraid that I might have trouble with their flying while it was so warm; but I resolved to try, and, to my astonishment, I found that I never set bees in the cellar when they flew as little or were disturbed less than with this warm temperature. As the hives were not frozen down on the bottom-board, they lifted off the same without a bit of jar, thus helping much in the matter. To keep from jarring them in carrying to the cellar I placed several thicknesses of old carpet on the spring wheelbarrow, letting the same run up over the front board, to which it was tacked on the back side, to keep it from slipping down. The hives could now be set on the wheelbarrow without the least bit of jar; and as the work of carrying them into the cellar seemed rather uncalled for, after I had them at the door of the cellar I conceived the

idea of laying down a couple of plank, which made it just right so that I could run the wheelbarrow right into the cellar, and thus bring every hive to the place where it was wanted, so that all the lifting there was to it was the setting them on the barrow and off again. Only now and then a colony seemed to realize that they had been disturbed at all, and I believe that it will be quite a little in their favor for safe wintering, in their not being disturbed in putting in. I can not help but think that it is much better to put bees in thus early in warm weather, than to wait till into December, as some advise, when it often happens that the hives are covered with ice and snow, and the inside of the same covered with frost, the melting of which causes a dampness to the cellar and hives not beneficial to the bees.

HOW TO WINTER THE HIVES WITH HALF-DEPTH FRAMES.

I have had very many letters since my article appeared in September GLEANINGS about "Non-swarmer," speaking in very high terms of the same, and many ask how I intend to winter the bees in these half-depth frames. My way of fixing them is this: After the honey season is over I look them over to see what honey they have in the combs; and whether I find any or not, I place eight combs which are the nearest empty of any, next to one side of the hive, when the other half of the hive is placed on top of this one, the same as used in the early part of the season. During the season I have used some of these half-story hives on the colonies which were worked for extracted honey, looking toward the wintering of these colonies; and as fast as they were filled they were set away for this very purpose, so that all I have to do at this time is to go to these hives stored with combs of honey and get eight frames from them, which are generally so well filled that they will weigh three pounds each, so that the eight contain 24 pounds of honey, which is the right amount the bees need for winter. These are set in the upper half of the hive, directly over the others in the lower half, when a division-board, such as is used in full-depth hives, is set in next to the combs, thus making a hive a foot square for wintering, with a passageway through the center of the combs for the bees to pass and repass as the cluster contracts or expands during the winter. In this way I get a deep hive for wintering, which some contend is better than a shallow one; and I get the bees in a snug compact form for winter, which my old teacher, E. Gallup, claimed to be of great advantage, and do away with the Hill device, or the cutting of holes through the combs for winter passageways, as nearly all bee-keepers think must be done. The space between the division-board and the end of the hive is now packed with chaff; and if they are to be wintered on the summer stand they are packed all around with chaff between the outside shell and the hive. When sugar is low enough so it can be afforded, the bees can be fed instead of putting in the frames of honey as above; or they can be fed at any time when sugar is high if the bee-keeper thinks that sugar is preferable to honey to winter on.

AT WHAT TEMPERATURE DO BEES FLY?

On page 418, 1889, I find these words: "Bees in health seldom go out of their hives unless the temperature of the air runs to about 55." As I can not agree with this, I wish to say a few words on the

subject, as it may lead some one into trouble. All of the older readers of GLEANINGS will doubtless remember the experiment which I tried, of keeping my bee-cellar at about that temperature one winter by the use of an oil-stove, and how all of the bees left their hives during February and March, in many instances, thus causing me the loss of nearly all of them; while both before and since I have been very successful in wintering bees in this same cellar when the temperature ranged from 42 to 45, as it always does when no artificial heat is applied. During the months of November and December, bees are comparatively inactive in this locality, no matter what the temperature may be; but as spring draws on apace, the bees seem to realize it, so that a temperature at which they were quiet in December will not be endured by them later on. For this reason I have frequently seen

a still, cloudy day, and the bees I thought at the time would probably fly as soon as the temperature got at the right point. At 50 none were seen outside; at 52 and 53, only a few; while at 55 there was a pretty general buzzing all over the apiary.

A TEXAS APIARY.

A VIEW OF CALDWELL'S HOME YARD.

FRRIEND ROOT:—By way of an explanation of the engraving, I will say that this is my home apiary, and it consists of 200 colonies of Italian bees. Part of the hives are cut off from view by the building, which is the extracting-room. The boy with the wheelbarrow is bringing empty combs to be put on one of the 35 hives on the



A GLIMPSE OF A TEXAS BEE-YARD.

bees bringing pollen at 42 during the month of April, and general work being done later on, with the mercury at from 48 to 50. G. M. DOOLITTLE.

Borodino, N. Y., Nov. 16, 1889.

Well, old friend, you ought to have a medal for that idea of putting a carpet on the wheelbarrow and tacking it so it can not slip. When reading it I felt ashamed to think that I had never before thought of any thing so simple. I agree with you, that two tiers of half-depth frames seem to offer many advantages for winter. When it comes to rearing brood in the spring, however, it seems as if those spaces with a stick above and below were not quite the thing when you want to push brood-rearing. You may be right about the temperature bees fly. My statement was based on an experiment made, I think, in the spring. It was

left side. These are run for extracted honey. The hives on the right are fitted out with T supers, and are run for 1-lb. sections. I have a good home market for all the honey I can produce.

The honey-flow has been poor this season. We get our best honey from white brush, a plant which is valued only for honey. The honey much resembles that from sweet clover. I have several out-apiaries, and can say that I have had but one total failure in the past seven years that I have devoted almost entirely to bee-keeping. J. P. CALDWELL.

San Marcos, Tex., Oct. 10, 1889.

Friend C., we are very much obliged indeed for the beautiful glimpse you give us of your home in the South. The little curly-headed girl a little in the background, between the two lawn hives, especially draws us to the picture. The stout boy with a

Daisy wheelbarrow, carrying two Simplicity hives, in the background, is another pleasant feature. The fellow behind him, still further in the background, has probably been taking his turn at the wheelbarrow, for he seems to be resting. The trees which are scattered among the hives, from their boughs and foliage I should call the eucalyptus, or blue gum, that I saw in California. You did not tell us that it is yourself holding a comb as if you were looking for the queen, but I guess we will take it for granted. The sunlight, as it falls on you through the foliage, at first sight would almost make one think you had been picking blackberries, and had got your shirt torn. We are glad to know that you have been successful in bee culture. We remember your name and your kind words, away back, almost if not quite as long ago as when GLEANINGS first started.

A LITTLE TALK ABOUT BOOKS.

WHAT BOOKS TO READ.

Of making many books there is no end.—ECCLESIASTES 12: 12.

THE above text seems to have been very literally fulfilled of late years, for a great number of books are written every year, and new books are being published daily. How very different from what it was sixty-five or seventy years ago! Books were not so numerous nor so cheap in those days, and a family who could boast of a library containing a Bible, Testament, Hymn-book, Baxter's Saints' Rest, Call to the Unconverted, Pilgrim's Progress, Æsop's Fables, a few school-books, and perhaps a volume of history or one or two story-books, were considered very rich in literature; were looked up to, and often-times envied by their ambitious but less-favored neighbors. To-day, if any one should attempt to enumerate the books of a good, bad, and indifferent character which are being brought into the majority of homes in our land, they would find they had undertaken an herculean task—one impossible to accomplish.

Although it would be impossible to give an extensive list of good books in a short article, it may not come amiss to mention a few interesting ones, and perhaps they may prove helpful to some persons who wish to purchase books for Christmas presents.

"Letters to a Daughter," and "Letters to Elder Daughters," are two excellent books (are small, the two cost \$1.25), by Mrs. Helen Ekin Starrett. They will be welcomed and appreciated by any young girl who desires to become a noble woman, dignified and refined in her manners.

"Six Girls," by Fannie Belle Irving, is an excellent story of home life. It is bright, and full of life; will be enjoyed by any girl, and at the same will teach her useful lessons.

Books by Pansy, Louisa M. Alcott, Mrs. A. D. T. Whitney, the Misses Warner, Miss Mulock, Hesba Stretton, Mrs. Andrew Charles, Mrs. Elizabeth Prentiss, and others of similar character, are healthy in tone, good in sentiment, and enjoyable.

"Stepping Heavenward," by Mrs. Prentiss, has been more widely read, I believe, than any of her other works; and right here let me tell you a little incident concerning it. Some young ladies were one day discussing books by various authors, when one of them remarked in an interrogative way:

"'Stepping Heavenward' is a good book; have you read that, girls?"

"No," said one; "I never read it, but I have heard a great deal about it, and would be glad to read it if I had an opportunity, for I think I should like it."

"Well," said another, "I don't know whether I should like it or not. To tell the truth, I think the name sounds too 'goody-goody'; and I don't like prosy or 'goody-goody' books; they are too insipid. I like good books, but I want them to have a little spice of wickedness in them—just a little, you know, enough to make the characters seem like human beings instead of angels. Now, I am not very good myself; and when I read of these marvelously good people it makes me feel so awfully wicked. Then I'll confess I'm seized with a desire to shake them up and try to make them like ordinary mortals, or else send them off to heaven, where they will find congenial society."

"Well, my dear," laughingly rejoined the first speaker, "if you desire 'congenial society,' some one with 'a spice of wickedness,' you can find it in the heroine of 'Stepping Heavenward.' She had as great a horror of being 'goody-goody' as you have; and when she tried to be good and step heavenward she found it exceedingly hard work. Read it, and see if it is not so. It is an excellent book, and will prove interesting as well as profitable."

A book by Margaret Sydney, "How Tom and Dorothy Made and Kept a Christian Home," is a sweet little story of home life. It tells us how a young couple made a home for themselves, and lived true Christian lives under rather trying circumstances. It is well worth reading by any young person, and might also benefit their elders.

"Ben Hur; a Tale of the Christ," by Gen. Lew Wallace, is so well known that one needs but to say that it gives us an imaginary history of Christ's life on earth: is exceedingly fascinating, seeming to fill out the history given in the Bible, making it more real to our minds, and is a book which can be read and re-read with interest and profit.

"In His Name; a Story of the Waldenses Seven Hundred Years Ago," is a lovely Christmas story. "Ten Times One Is Ten: The Possible Reformation," is a story of reformation. These two books are by Rev. Edward Everett Hale, and are the origin and foundation of the societies known as "The King's Daughters," "The King's Sons," "Lend a Hand," and some others. These books are delightful, and profitable reading for any one.

With Harry Wadsworth's motto—which is the motto of these societies—we must close our little talk.

To look up, and not down;
To look forward, and not back;
To look out, and not in; and
To lend a hand.

Ipava, Ill., Nov. 9, 1889.

ANNA B. QUILLIN.

Many thanks, my good friend, for the suggestions you make in regard to what books to read. I can warmly second what you say about "Stepping Heavenward;"

and I wonder, since you mention it, that we have not had it on our book-list before. —I am glad to know that there is a book published in regard to this organization known as the King's Daughters. There is something inspiring in the very thought; and when we come to know that their work is really in spreading the truths of the gospel, we can not wonder that a blessing seems to follow them. At our noon-day service, we have been in the habit, every Thursday, of repeating texts. For some years text-day seemed to drag a little. Finally a band of King's Daughters was organized among our women-folks, and since then we have had more beautiful texts, sometimes, than our ten minutes will give room for.

WIRED FOUNDATION.

FOUNDATION ON FINE WIRE, CHEESE CLOTH, OR OTHER FABRIC; IS THE IDEA NEW?

I HAVE read in the *American Bee Journal* of wooden comb and its many claims, and this set me to thinking about the wired combs. I thought this: Why not take close, smooth print cloth, or good cheese-cloth, or even the veiling or strong unsized paper, or else fine wire cloth, or any such material, which upon trial may be found suitable, and pass it through the melted wax, the same as the wire cloth is passed through the melted metal to coat it? If one time passing through should not be sufficient to give a suitable coating, pass through the second time, and let it be rolled upon round rollers or drums; then to print or manufacture, run through the machine as the dipped sheets are, then there will be no trouble about combs breaking down, queens hiding in the holes, and running around the ends and the bottoms, for the sheet of foundation can be tacked in tight, full, and straight. What do you think of this? Is it original? Who has tried? Will it do? Why will it not do? Many other questions could be asked.

What do you think of foundation made on fine cloth, put up in rolls of 25 yards, of all widths? If I had a machine, I would not ask so many questions. I feel very confident that there is no reason why it can not be made, and that the bees will not work it out as well as they will any other foundation. If so, then wired frames will be a lost art, broken combs a crime, shipping bees and their combs a certainty that is doubly sure. Try this on some fine close cloth; and if it will do, say so. If any person has tried it, let him arise and say when and where, so that, if there is any good in it, I want the originator to have the praise and the profit. I do not think it will take as much wax to properly coat such cloth as to make the brood-comb foundation, as we use a fine cloth coated with beeswax, and torn into strips about one inch wide for wrapping the buds in when budding the orange-tree; and from this I think there can be no doubt but that such comb foundation can be made, and I will leave it to you and the bee-keepers to test; but if I am the first, I want the credit as the originator, and shall claim the right of a patent if I so think in the future.

JOHN CRAYCRAFT.

Altosna, Lake Co., Fla., Nov. 11, 1889.

Friend C., you are wasting your time and brains in giving any further attention to cloth or other material as foundation as a base for making foundation. Every thing you suggest has been invented again and again. Cheese-cloth or any other kind of cloth will be eventually torn out by the bees. They seem to regard it as some indication that the moth worms are at work. Paper has been used to some extent, but it is open to the same objection. Very fine light wire cloth will do, but it spoils your rolls, and makes your foundation unnecessarily heavy. You can not incorporate any thing of the sort without using a great deal more wax than you use with the ordinary wired frames. No doubt you could get a patent, and very likely it would be worth fully as much as the patents we have already on bee-hives and their fixtures—just nothing at all.

ALFALFA IN MICHIGAN.

VALUABLE POINTERS FROM GEO. E. HILTON.

FOR the past three years I have been trying to get the farmers living on the light sandy land known as "stump lands," and where it seems quite difficult to get the common clovers to catch, to try alfalfa. Two years ago a Mr. Davis, living about four miles from here, sowed a small patch, and it did nicely. Last fall I sent for a bushel of seed, and a friend of mine has sown it. Should this prove a success it will not be long until there will be a large amount sown abroad here; and if it produces honey in Michigan, as friend Ball reports from Nevada, Middle and Northern Michigan is coming to the front as a honey-producing locality. What a wonderful transformation it would be, friend Root, if that waste of land we passed over on that (to me) eventful day between Baldwin and White Cloud could be covered with fields of alfalfa, dotted with happy homes surrounded by herds of cattle and humming bees! Our State officials see the necessity of reclaiming these lands, and now have experimental farms at Baldwin and other places. I am watching closely, and hoping that alfalfa is to be at least one of the agencies to do the work. I shall watch closely this little experiment in which I am directly interested, and report as fast as there is any thing to report, either favorable or otherwise.

WIDTH AND THICKNESS OF TOP-BARS.

I very much dislike to throw a "wet blanket" on any project, but I don't think the heavy-top-bar project will "hold water." About two years ago, T. F. Bingham shipped his entire apiary to me. It now comprises my out-apiary, known as the "Goldenrod Apiary." You are aware, the top-bars are $\frac{3}{4}$ of an inch square; the ends of frames project $\frac{1}{8}$ of an inch above the top-bars; then comes the slatted honey-board, then the clamp of sections, with $\frac{1}{4}$ -inch bottom-bars, bringing the sections $2\frac{1}{4}$ inches from the brood, providing the brood is close to the top-bar, and it usually is, in these shallow frames. Now, if the honey-board could be dispensed with we could get the sections $\frac{5}{8}$ of an inch nearer; but, bless your heart, in 99 cases out of 100 it is built so full of comb that in some cases there are not as many "pop-holes" left as one row of

perforated zinc would make. This would make a bad condition of things were the clamp placed where the honey-board now is. They seem to enter the sections just as readily as they do in my hive where the sections are only $\frac{3}{8}$ of an inch from the top-bar, or $\frac{3}{4}$ of an inch from the brood. The matter of distance of sections from brood was brought up at our last State convention, and some of the friends said they had put on three or four honey-boards, and could see no difference in the bees entering the sections. But, all things considered, I prefer having the sections as close to the brood as possible. In my home yard there is but one bee-space, no slatted honey-board, and no burr-combs, and all increase comes under this plan. I think, in Oct. 15th issue of GLEANINGS Prof. Cook spoke of the advocates of chaff hives, clamps, etc., for wintering. He did not get the mode of packing the Bingham hive just right. They are in winter quarters now. If you would like I will have a photograph taken, and send you, with description and manner of manipulating for comb honey.

Fremont, Mich., Nov. 21, 1889. G. E. HILTON.

Friend H., well do I remember that eventful day; and every time I think of it, especially when brought to mind by your earnest work in the Master's service, I can only say, "May the Lord be praised!"—Since you speak of it, I do not see why alfalfa should not thrive on many of the sandy wastes of Northern Michigan. If any of our bee-friends in that section have given it a trial, will they please speak out?

CONVINCING TESTIMONY OF THE VALUE OF BEE-STINGS AS A REMEDY.

HOW THEIR DIRECT APPLICATION CURES INFLAMMATORY RHEUMATISM; BY A COMPETENT
PHYSICIAN.

FRIEND ROOT:—I have seen several statements in GLEANINGS in regard to rheumatism being cured by the sting of bees. I will now give you some of my experience, and a few facts, which have placed *apis mellifica* very high in my estimation as a rheumatic, and also as a kidney and bladder remedy. I give it in many cases for these diseases when indicated.

1. I do not recommend it in *all* cases; but it is worthy of a trial; and if it gives relief it will nearly always effect a cure if continued for some time. As rheumatism is often caused from diseases of the kidneys and bladder, I deem it a favorable sign when the flow of urine is increased, if ever so little, by its use. It matters very little which way it is introduced into the system, just so it gets there. I have used the tincture many years in my general practice, and I should not like to dispense with it. Its use has a broad field in the healing art, and is not confined by any means to the above-mentioned diseases. In the treatment of rheumatism I should rather prefer the direct sting from the bee, if it were possible to apply unbeknown to the patient, which I have succeeded in, in a few instances, for I fear that, to make public the mode of application, would have a tendency to elicit unfavorable comments from the medical fraternity and a criticising public.

In the month of January, about twelve years ago, I was called to the country to see Mr. J. B. I found

him confined to his bed with inflammatory rheumatism. The attack was very severe, considerable swelling and intense pain. Not having any *apis mellifica* in my case, I inquired if they had any bees. I was answered they had, and I requested to be taken to a hive. I procured a number, and returned to my patient. I gave him one sting before he knew what I was doing. He said, "Oh my! Dr. Gress! do you intend killing me?" I assured him it was necessary to give him relief in that way or he would have to continue suffering until I returned to town and procured other remedies. After arguing a few moments I gave him a second pop, and then again a third, fourth, fifth, and I think in all about eight, when he commenced to enter serious objections, so I patiently awaited results, which soon followed in the way of relief of pain, free secretion of urine, and perspiration. I left one hour after, with advice to use the little doctors in the morning. In the afternoon he came to town to see me, and during our conversation he stated he would like to have me make a statement in the paper in regard to the great benefit he had derived. I objected, for reasons before given. But I am frank to admit that I never attended him for any more rheumatism, as the bees were always his doctor in that particular disease.

My second experience was with a negro who applied at the office, suffering with inflammatory rheumatism. I requested him to call at two o'clock, as I had just received a call. While at home at dinner time, I procured some of my cross Italian bees, and on returning to my office I turned them loose in my consultation-room, so I could go in and pick them up as I should require them. I examined the limb, found it swollen and painful. Using his own words he said, "Doctor, if you don't do something for me I shall be compelled to get some one to carry me home. I am growing worse every minute." I told him I would use the medicated needle, as it would act quick. I secured one of my little doctors, hiding it with a piece of tissue paper. I quickly applied it to a sensitive spot. Say's he, "Boss, that needle am pretty sharp," and began to scratch the place, while I went in for another Italian bee. Returning I gave him another pop. He then wanted to see the needle. Of course, I did not show him what I had used. I then went back to "put some more medicine on the needle," and on my return he exclaimed, "Say, boss, that pain am getting better; but it am smarting just like the sting of a wasp." I made no answer, but kept on applying until I had stung him about ten times. Perspiration now commenced to start, when he got up, stating he was free from pain. He called the next day, stating he gradually grew better, and there was scarcely any swelling left. I have used the tincture of *apis* with almost the same results, although for prompt relief I prefer the "little doctors."

Atchison, Kan., Nov. 20, 1889. P. C. GRESS, M. D.

Well, friends, this begins to look like business in dead earnest, so far as inflammatory rheumatism is concerned. There are enough, I presume, afflicted with this malady to give the matter a complete test in a very short time. If one case of inflammatory rheumatism in ten is cured as promptly as in the above instances, the discovery will be a boon for mankind, without any question. Let the afflicted at once make the trial, and report.

CUCKOO-BEES.

WILL WONDERS IN ENTOMOLOGY NEVER CEASE?

FRIEND ROOT:—I have become very much interested in these cuckoo-bees. I have several communications regarding them, so that it seems to me there can be no mistake in the matter. The longest and most interesting letter is from Mr. E. H. Collins, the intelligent and wide-awake president of the Hamilton Co., Indiana, Bee-keepers' Association. Mr. Collins states that, at their May meeting, the matter was discussed at length. Many complained of a small black bee robbing in their apiaries. It was urged by all, that closing the entrances of the hives did no good. The bees seemed to make no effort to repel the invaders. It was also urged, that the queens could not be at fault, as the colonies were strong, and the hives full of brood; yet the little bees pass into the hives in a stream. Several confirmed these statements, and insisted that these bees were not the common black bees. The association voted that their president investigate the matter. Mr. Collins wrote to me, but, unfortunately, sent none of the bees. You will remember my suggestion, that the intruders were probably our common small black wild bees—*Andrena*—as I had often known of their stealing into hives for honey. You, in an appended remark, suggested that they were robber-bees that appeared small and bald, from the hard usage that they had received. Mr. Collins reported the above to the society at its next meeting, but neither my explanation nor your suggestion seemed to satisfy those most interested. An old experienced bee-keeper, but an uneducated man, said the insect was not new, as he had seen it before, and he was sure it was produced in the hive. He had often seen it come forth from the cell. Mr. Collins also writes that *he is sure that these bees are reared in the hives*. At the August meeting of the Society, held at Oran Maker's, Westfield, Ind., this old gentleman took some of the members to an apiary; and though the bees were flying but little—as the day was cold and unfavorable—still two of the bees were caught. Mr. Collins says he sent these bees to me. I regret to say that they never reached me. It seems that several present at all these meetings were familiar with the bees, and some had hunted for them in the forests, but to no purpose. Mr. Collins says he will promise to send scores to me next summer, or even a whole colony that is infested, if our station wishes to experiment with them.

You see, Mr. Editor, that these are almost certainly the same bees—species of the genus *Apothys*—that Mr. Perry Moore sent me, and which I described in brief in GLEANINGS, current volume, page 811. The specimens sent by Mr. Moore are denuded of their hair, so I can not surely identify the species or send you a good drawing. Just as soon as I can get a perfect specimen I will do both. This is certainly a very interesting discovery; and as several have requested it I will give a more complete account of these bees. These bees are not social, like the honey-bee, bumble-bee, carpenter-bee, and yellow-jackets, but are solitary. Instead of queens, workers, and drones, there are only males and females.

Owing to some peculiarity, perhaps that they are reared in the hive, these bees are permitted to enter the hives as freely as are the rightful owners.

This possibly explains their occupancy of the hives, and their undisturbed ingress and egress. Of course, it would not explain the first entrance; but it is easy to see how a sharp, wide-awake bee might steal in and deposit a score or so of eggs in the cells, even by a colony of Italians or Syrians. It will be remembered, that Sir John Lubbock, in his admirable book, "Bees, Ants, and Wasps," states that, if ants in the pupa state are taken from one colony and given to another, they will be accepted and reared, and then the mature form could be returned to the parent nest with no harm; while if an ant, reared throughout in colony No. 2, were given to colony No. 1, it would be dispatched at once. We all know that young queens just from the cell will be graciously received at all times, if introduced into another colony of bees. Thus we easily believe that the cuckoo-bees, reared in a colony of honey-bees, would be considered as real children of the bee-home, and always welcomed as such.

I do not think these bees have ever been known to "cousin" on the honey-bee before. How serious a matter it will become, will depend wholly upon how numerous they get in a hive. A hundred or so would do no more harm than so many drones, possibly not so much. If they are able to appear in thousands, then it will be quite a different matter. Their winter habits will control this largely. If they pass the winter in the hive with the bees, so that all survive the winter, then we may well be solicitous regarding the future mischief of these bees. I am very desirous to work out the entire problem, and shall be very grateful for specimens, and also for any observations which others may make.

A. J. Cook.

Agricultural College, Mich.

And so this insect really used the principle of the diving-bell, with an air-tube reaching above the surface of the water, ages and ages before mankind ever thought of it!

A GLIMPSE AT OMAHA.

A LETTER FROM MRS. JENNIE CULP WILLIAMSON.

DEAR BROTHER:—After a silence of over two years I shall venture to write you a few lines, for my heart and sympathies are still with the bee-brethren of Ohio, even if I am away out here in "Newbraska." I do not know much about that branch of industry here, but the subject is being talked up. Almost the first call I return I found your A B C, with my home and apiary in it, occupying a prominent place among the young people's books. If you have ever been a stranger in a strange land, you can imagine with what pleasure I greeted it.

It is too bad, Bro. Root, when you were returning from California you did not stop off at the great Gate City of the West, and see how they "run" things here. One of the greatest items of interest to me is the great number of churches; also our Y. M. C. A., with a membership of nearly 1,000 young men.

Our city contains about 24 square miles, and it is astonishing to see the miles of paved streets we have in a city so young, and the rapidity with which we can travel over it from one end to the other with our cable and motor cars. Columbus, O., seemed very tame to me this fall when I was home on a visit. I spent a month at my old home

with the honey-bees, and I am proud to tell you that my son Charlie proves to be a "chip off of the old block," for he is running the apiary as successfully, to all appearances, as I did; and I am still more pleased to find he is training up his two little "chips" in the business. Henry, past seven years old, took the smoker last summer, went down into the apiary, opened up a nucleus hive, took out the cards, and found the queen; and Harry (five years old) would amuse himself by playing he was A. I. Root shipping queens. He would take a tin cup, pair of scissors, and an old queen-cage, sit down by a bee-hive, and catch the bees by their wings, clip them, letting them fall into his cup until he had enough to select his queen from, stir them around with his little fingers, seldom getting stung. Now, while I would not allow that to be done a second time after I found it out, it certainly did please me to think I had a little grandson so courageous; and it gives me encouragement to think the children and grandchildren, in all probability, will take care of grandma's bees from this out; but they will remain mine, I think, while I live. They are a source of comfort to me, even if they are 900 miles away. Living in the very heart of the city as we are, I have to deny myself the pleasure of keeping bees.

MRS. JENNIE CULP WILLIAMSON.

Omaha, Neb., Oct. 23, 1889.

We are glad to hear from you, dear friend; but it seems a little sad that you can keep bees no longer. Can't you have a few hives on the roof of the house, even if you are in a city, as friend Muth is? Most people who have once had a real love for the bees will return to the pursuit, sooner or later; and we rather expect to hear that you are keeping bees again, before many years. I should have been exceedingly glad to make a call on you.

A GLIMPSE AT THE FACES OF THE OFFICERS OF THE ASSOCIATION.

A SHORT SKETCH OF THE SECRETARY OF THE N. A. B. K. A.

IT is with pleasure that I give our readers a view of our energetic and efficient secretary of the North American Beekeepers' Association. Richard Ferdinand Holtermann was born in the city of Hamburg, Germany, June 14, 1860. Two years later, the parents, with their son and two daughters, emigrated to Canada, settling in the county of Renfrew, Ont. Here, at the age of twelve or thirteen, young Holtermann received a portion of his education from a governess. Later he was sent to a private school, and shortly afterward he attended the Ottawa Collegiate Institute at Ottawa. Here his mind wandered, he says, in the direction of boating, cricketing, swimming, etc., rather than toward study. When about fourteen his father moved to Toronto, and then sent his son to the Upper Canada College, and subsequently to Day's Commercial College, where he received the "1 A diploma." He then decided to go on the farm. Shortly afterward he attended the Ontario Agricultural College. Here he graduated with honors, being only 70 marks out of 4000 behind the first medalist. It was in this school, in the capacity of librarian, that

the subject of apiculture was opened up to him through the medium of the A B C and Cook's Manual. The next season was spent as a student with D. A. Jones, in the apiary. He next made the great mistake, he says, of embarking in apiculture a little too soon. The result was, he learned many severe lessons. With his apiary of 79 colonies he underwent the trying ordeal of a bad season to begin with. However, he secured enough alsike honey to enable him to secure the second premium at the Toronto Industrial Exhibition.



R. F. HOLTERMANN.

Later he entered into some speculations, and came out nearly \$1000 in debt; but, unlike a good many young men, he was not discouraged, went to work again, and paid 100 cents on the dollar, instead of trying to get out, as he could have done, by paying a few cents on the dollar. He entered the employ of E. L. Goold & Co., of Brantford, commencing at 85 cents a day, and left as manager of the supply-business, and editor of the *Canadian Honey Producer*. He married, May 17, 1887, Lois, daughter of S. T. Pettit, whom he met at the last meeting of the N. A. B. K. A., held at Rochester, N. Y. They have one son and a daughter; and in their home they seek to have God's will their own. As might be expected, Mr. Holtermann uses neither tobacco nor liquor.

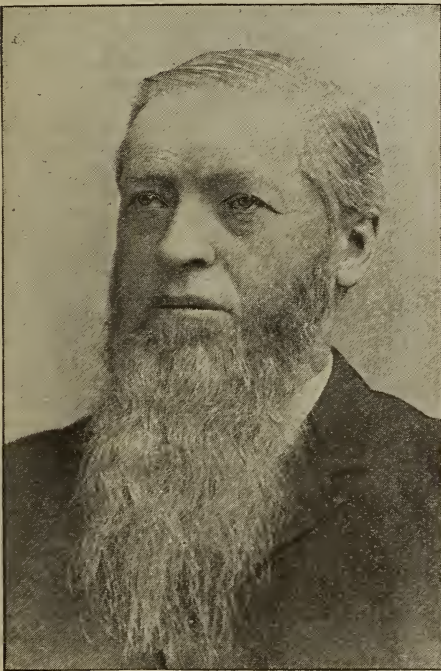
Mr. Holtermann has made bee-keeping pay, and he has averaged, he says, latterly \$8.00 per colony income. He thinks anybody can do as well in a fair locality, providing they start with one or two colonies.

Mr. Holtermann has been active in bee-associations, in which he has held various offices. At the late meeting held in Columbus his name was proposed several times for

the presidency of the association; but he very modestly declined the honor, in favor of another member. His name was next proposed for secretary, and was carried by the unanimous consent of the association.

DR. A. B. MASON, THE MAN FOR SUPERINTENDENT OF THE APIARIAN DEPARTMENT AT THE WORLD'S FAIR IN 1892.

Well, now I have given you a little insight into the life and face of the secretary of the association, I can hardly with propriety omit in this connection the genial face (it's sober in the picture) of the president of the association. We have already given our readers a view of him, accompanied with a biographical sketch; but he is such a large-hearted, good-natured, and almost indispensable member of bee-associations that I feel constrained to introduce him again. He has a happy faculty of making everybody feel well acquainted and *real good* at conventions. Sometimes one of his huge jokes makes some other good friend, at whose expense it was made, feel just a little touchy; but when he begins to know the doctor better, he will always find that the kindest intentions prompted it.



DR. A. B. MASON.

Now, then, while I am about it I want to revive the matter regarding the appointment of a superintendent for the International Bee Exhibit, to be held at the World's Fair in 1892. The suggestion emanates from John Aspinwall, and is a good one. I suggested Dr. Mason, and Prof. Cook seconded the motion; and when the

motion is put to a vote, at the Brantford convention, I hope the doctor will be unani- mously elected. From his large experience in the line of preparing exhibits, and his ability to talk down comb-honey slanderers, he is *the man*, in my humble judgment.

ERNEST.

BEE-HUNTING IN THE SIERRA NEVADA MOUNTAINS.

BY A SUCCESSFUL BEE-HUNTER.

BEE-HUNTING always had a fascination for me. In my leisure time I took delight roam- ing through the woods in search of wild bees, tracking and lining them to their habitation.

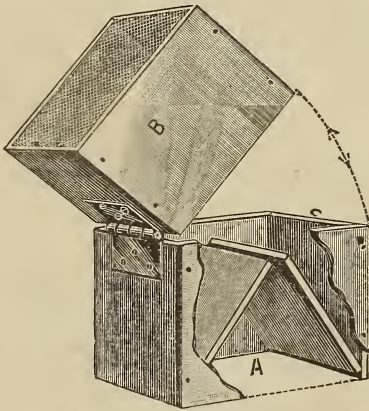
I was generally pretty successful in my search, frequently finding three or four trees in a day. I first became interested in bees by reading one of Cooper's novels, entitled "Oak Openings." It described a bee-hunter, his method of operating, lining, and angling for wild bees. I had long known where a swarm of bees came for water near our place. One afternoon, after reading Cooper's plan, I decided to try my luck at bee-hunting. Having arrived at the place, I had all necessary implements ready for business, and soon had quite a line of bees started. I noticed that some of them swerved considerably to one side, owing to a heavy growth of young firs being in their line of flight, while others went directly over them. Having bees working on two combs of honey, I ventured to move one comb, containing perhaps 25 bees, about 100 yards to one side. After filling up they circled around a little, marking the location of the honey, and then took a direct line to a clump of old dead cedars at the bot- tom of the cañon, where those that had taken a direct line from the first place went. Thinking that the tree must be near where the two intersecting lines met, I gathered up my implements and started down the mountain-side. Arriving at the clump of dead cedars, and making a thorough examination, I soon found the tree. They entered a small knot- hole about 40 feet from the ground. The next thing on the programme was to get the tree down and see what it contained. On going home I re- turned with axes, wedges, and saw; and after two of us had worked a couple of hours we had the sat- isfaction of seeing the tree tumble to the ground. It burst open where the bees had constructed their hive, throwing bees, honey, and brood out in wild confusion. We had no difficulty in taking all the honey, and did not receive a single sting. The tree contained upward of a hundred pounds of honey, seventy pounds being beautifully white clear honey. The rest was mixed with bee-bread. I undertook to save the bees, but, not knowing much about them at that time, I made a failure of it.

DIFFERENT PLANS AND METHODS OF BEE-HUNTING.

Cooper's method of bee-hunting is as follows: First get a small light-colored glass or tumbler, transparency being necessary in order to watch the movements of the bee. Find a bee to suit you, and place the glass over it, flower and all, placing your hand underneath to keep the bee from escaping from the bottom. You must have a small empty piece of honey-comb, and some thin honey to pour into the comb, drone comb being best. After obtaining your bees, place your piece of honey- comb on some level surface, and set your bee and glass over the entire comb. Next place your

handkerchief or hat over the glass, making a darkness like that of the hive inside the glass, and then the bee will immediately settle on the comb and commence filling up on the thin honey. While the bee is intently occupied in filling itself, remove the glass and go off to one side, so you can have a better chance to observe the movements of the bee when it commences to circle. The first few circles will denote the direction of the hive, and each succeeding circle will swerve more and more in that direction, until finally, when on the last circle, it will strike off in a direct air-line for its habitation, provided there are no clumps of trees in the way, when it will often swerve to one side, misleading the bee-hunter.

When angling for bees you must move a few hundred yards to either the right or left, and note the direction of their flight. Where the two intersecting lines meet, there will be the hive also. Instead of using the glass, as I used to, I now use a box made as follows: Take two pieces of $\frac{3}{4}$ -inch stuff, 6 inches long and 2 wide; two more pieces, 6 inches long and 4 wide. Use the 6x4 for sides, and the 6x2 for ends; nail together lengthwise. Next, take two pieces, 2 inches long, 2 wide, and $\frac{3}{4}$ thick, and put together thus: Λ Now bore a half-inch hole in the middle, where they come together, and insert it in the under side of the box, something on the principle of Alley's drone and queen trap. Now saw the box in two where this inverted V-shaped piece reaches, and put on a small pair of hinges. Next, nail a piece of wire screen across the top, about 12 meshes to the inch, and you are ready



WATKINS' BEE-HUNTING BOX.

for business. When you want to catch a bee, place the trap down over it, and the bee will immediately go to the top, where the wire screen is. You can venture to catch any number of bees that you want to. Now get your piece of honey-comb; open the trap, and set it in—no danger of the bees escaping, as they are too intent on trying to get out through the wire screen. Close the trap and place a piece of cloth over the screen to darken it, and make the bees settle on the comb. When they are occupied in filling themselves up, open the trap about half way, in order to let the bees that are filling themselves get out. When you have found the course of two or three bees, close the trap and move a few hundred yards further along. By this method you can soon find any bee-tree. S. W. WATKINS.

Placerville, Cal.

(To be continued.)

CYCLOPEDIA SCIENCE NOT ALWAYS RELIABLE.

PROF. KOONS HAS SOMETHING FURTHER TO SAY IN REGARD TO APHIDÆ, AS SUGGESTED IN MISS QUILLIN'S LETTER OF NOV. 1.

MISS QUILLIN was unfortunate in two respects, at least, in her selection of authority on aphidæ, as printed in GLEANINGS for Nov. 1st. In the first place, she went to a very unreliable source, which in this case is about as trustworthy as the statements concerning glucose being extensively fed to bees, as quoted from the American Cyclopædia in GLEANINGS of July 15th. The fact is, that much of the science, so called, in our cyclopædias, is compiled by men who glean from all sources—good, bad, and indifferent, and who are entirely incompetent to judge, either of the accuracy of the statement or the reliability of the source gleaned from; but they conclude that, as they are found in print, the statements must be true.

I am constantly compelled to remind my students that the science found in the general press, the daily, weekly, and monthly periodicals, is very unreliable. As for myself, I never feel safe in accepting a scientific statement unless I get it over the name of a well-recognized authority, or in a book from one of the masters in that special department. Until within comparatively recent years, science was in a very confused state, and, indeed, is still so in many respects, some fact being mingled with much fancy; but out of this "scientific Babel" a more reliable literature is slowly growing.

Webster's Dictionary was found to be so incorrect in many of its cuts and definitions that it is now being revised by a number of specialists. For example, one takes all the chemical words, another all the botanical, another those of a physiological character, and still another the zoological, or architectural, or law, etc., each being a well-recognized authority, and standing high in his profession; and thus we shall soon have a thoroughly reliable book.

Again, besides going to an oft-unreliable source, Miss Q.'s statements, when secured, were not entirely correct; and I am constrained to call attention to it because GLEANINGS, doubtless, is read by many who are interested in hop culture, and consequently in the hop-plant louse. The true history, as recently worked out, is as follows:

The eggs are deposited on the plum in the fall by perfect wingless females. In the spring, as the leaves put forth, these hatch into wingless agamic females; that is, females that can reproduce without the aid of males; and these bring forth a generation, the second wingless like themselves. The third generation, which appears during the early days of June, are winged agamic females, and these migrate to the hop, which by this time is far enough developed to furnish food to the plant lice; and these, after going to the hop, produce the fourth generation, which are again wingless, and these in turn produce other wingless forms, and thus on through the summer, generation after generation, till late in August or early in September, when a generation of winged forms, about the twelfth of the year's product, are brought forth. These, too, are agamic, as all preceding have been; also at this time all those produced by the surviving members of previous generations, even as far back as the fifth, have wings. In other words, all those pro-

duced late in August or early in September, are *agamic winged* females, no matter from what generation they come. Then the very late members of the twelfth generation, late in September, are winged *males*. The winged females, just previously produced, fly away to the plum, and there begin to produce, not agamic, but perfect wingless females, which are full grown by the last of September, when the winged males, above mentioned, fly to the plum, where the perfect wingless females are, and here they mate, and winter eggs are soon deposited about the base of the twigs, and thus provision is made for the same round of life-history the following year. It seems that, if the perfect wingless females of this last generation are deposited upon the hop or any other plant except the *plum*, they will not live, the latter being necessary to their development.

In the life-history as above given, we find an illustration of that wonderful adaptability so often met with in nature. These little creatures have no use for wings in the spring till the *third* generation is produced, and the *hop* is ready to receive them; then after the migration, no further use for them till fall, and it becomes necessary to return to the plum for a late fall, winter, and early spring abode. Nature is not prodigal in her resources, producing only that which is necessary to carry out her designs, giving wings when needed; but when not required, they are not developed. Often it is difficult to interpret those wonderful adaptabilities in nature; but here, at least, we may conjecture why this remarkable life-history. The hop-vines die, and are likely to be removed and burned, or otherwise destroyed—perhaps made into a compost-heap; and if the plant-louse eggs were left upon these, it would be only by mere chance that they would escape destruction; and even if they did escape, the young, when hatched in the spring, would not likely be where they could get suitable food; hence a wise Creator ordained that the winter eggs should be left where destruction would be less likely to overtake them, and where the young would have fresh leaves to feed upon when hatched. Indeed, here, as so often everywhere, the devout student of nature may exclaim, "All thy works are truly and wonderfully made."

B. F. KOONS.

Connecticut Agricultural School, Storrs, Ct.

Friend K., we are exceedingly obliged to you for giving us such opportune help in making this complicated matter plain. It has seemed to me a sad thing that our cyclopedias should teach so much error and hearsay. I did not know before that Webster's Dictionary was open to the same charge—at least to any considerable extent. By all means let well-posted, honest men, correct these matters, each in his separate line of work or industry.—In regard to the hop-insect, I want to say to our readers that the hop-growers have been for years almost on the verge of bankruptcy because of the depredations caused by this mischievous little insect. All efforts to combat the foes seemed unavailing, because they came from such mysterious sources at a certain season of the year, and then disappeared as mysteriously as they came. Burning the vines, and every thing of that sort, of course was futile. It did not reach the root of the matter at all. When some professor, I have forgotten his name, first declared that the in-

sect commenced on the wild plum, it seemed to be too wonderful to be true; and the scientific world rejected it as a wild speculation. It is now, however, universally accepted and recognized as true. People who refuse to accept the Dzierzon theory in regard to the natural history of the honey-bee may well be deemed excusable for finding it hard to believe that this hop-insect goes forward for several generations without any males at all. The matter is so complicated, that I confess I never clearly understood it until I read Prof. Koons' explanation as above. The italics are my own. I have taken this liberty, which I am sure the professor will excuse, because I found it so difficult to understand, until I had studied out and decided what words needed to be emphatic.

TREATMENT OF THE INSANE.

A POSTHUMOUS ARTICLE FROM THE PEN OF THE
LATE MRS. MAHALA B. CHADDOCK.

AFTER the death of our correspondent and friend Mrs. Mahala B. Chaddock, we began to hunt around amongst our unused MSS., which, though meritorious of themselves, were, for lack of space at the time, crowded out. We came across the following article, written some time since, and we are glad to give it insertion, as it is a true index of Mrs. Chaddock's real character, and of the philanthropic spirit which actuated her through life. This posthumous production, though exceedingly interesting and valuable in itself, will be read with melancholy interest now.

Editor *Gleanings*:—

For several years—ever since a friend of mine spent a year at the Jacksonville Insane-Asylum—I have been trying to think of some way to help these unfortunate people; but I did not know what to say—that is, what I had better *not* say. Of the overcrowded condition of the insane-asylums in Illinois, and the wretched treatment that the chronic insane receive at most of our poorhouses, I will not speak, but point out the better way that Wisconsin has cleared out for herself, and which we may all walk in if we are not too bigoted. My information is obtained from the article mentioned, and from pamphlets sent me by A. O. Wright, Secretary of the Wisconsin State Board of Charities and Reforms.

Wisconsin has about 2600 insane, increasing at the rate of about 167 a year. These insane are provided for in the State and city hospitals, and in sixteen county asylums for the chronic insane. The improvements in the care of the insane consist in the doing away with restraints, either by mechanical appliances or by narcotics; separation of the chronic cases from the others; increased liberty, and the substitution of wholesome labor for idleness. These county asylums have been in operation (with two exceptions) for six years. These county asylums are managed by local authorities, but under the constant and close supervision of the State. The buildings are of brick, very plain, solid, and comfortable, and are of a size to accommodate not less than 50 nor more than 100. A farm is needed for economy in maintenance; and to fur-

nish occupation for the men, about four acres for each inhabitant. The fact is recognized, that idleness is no better for an insane than for a sane person. All the outdoor work is done by the men, the housework by the women.

Experience shows that three-fourths of the chronic cases can be furnished occupation of some sort, greatly to their physical and moral good. They are less nervous, and need less restraint when occupied with work, and sometimes a perfect cure is effected. One attendant to every twenty insane persons is sufficient. These asylums are as open as a school; no doors are locked, no bars to the windows, but the glass frames are of iron, painted white; no pens made of boards. The inmates are free to go and come at their work, with no other restraint than the care of the attendant. These asylums are *homes*, not prisons. The great thing is to provide occupation. In the county asylums of Wisconsin, about one person in a thousand is in restraint or seclusion each day. The idea is, that the insane are diseased, and that they need occupation, amusement, and kindness. The practice of this idea has been so successful that it must affect the treatment of the insane all over the country. The secret of providing work is to buy as little material, and hire as little labor, as may be; let the women make the clothes, and the men do the outdoor work without the aid of machinery. Some of these county asylums are almost self-supporting, and all of them save money to the counties, compared with the old method. The State has not lost, and the counties have gained; and the insane in these county asylums have been as well clothed, lodged, and fed, as in the State institutions, and have more freedom and personal comfort, and a better chance for improvement. The new system considers the education of the chronic insane as an important part of the treatment—education of the mental, moral, and physical faculties in habits of order, propriety, and labor. By their means wonders have been worked for the insane.

Now, perhaps you will ask why I write this for GLEANINGS. Because GLEANINGS is a *humanity* paper, and this is *humanity*. Everybody is interested in the treatment of the insane; and then, see! they have a difficulty to find suitable employment for the men in winter time. Then I thought of bee-keeping. Seems to me there could be no more appropriate work than the keeping of bees and raising of honey. How good and how handy the honey would be for the asylum tables! and the men could make the hives, the foundation, the crates, and sections, in winter time. I do not know whether Wisconsin is much of a honey State or not. There are plenty of readers of GLEANINGS who *do* know. I have sent for the names and postoffices of these sixteen county asylums; and whenever you feel like sending out sample copies, you will please remember those poor unfortunates in the Wisconsin county asylums.

Vermont, Ill.

MAHALA B. CHADDOCK.

Although GLEANINGS has had many kind words and many compliments, I do not know that it ever received any thing in that line that is really a *higher* compliment than the expression in the concluding paragraph above; "GLEANINGS is a *humanity* paper;" and I think the readers of GLEANINGS will agree with me in deciding that our departed friend was a *humanity* writer.

Like the rest of us she had her peculiarities and perhaps some eccentricities; but through all her writings there shone out clearly and unmistakably a love for her fellows. There was nothing narrow and contracted in her ideas and teachings. Her sympathies were as broad as the universe; and in the above article her sympathy for this special class of poor afflicted humanity shines forth almost Christ-like. May God be praised, that Wisconsin has set an example before her sister States. The above was written before my visit to Wisconsin, therefore our poor friend did not at the time of writing know what a grand State for bee-keepers Wisconsin is. The idea of interesting the insane in bees is grand. I have for years been well aware that I can, by taking time, interest and enlist the sympathies of almost any individual in the habits of bees. A child, even one of tender years, soon becomes enthusiastic, and so will elderly people. I do not know that I have ever tried the effect on one whose mind was diseased; but I feel quite certain that bees and outside air will accomplish good results if any thing can. Here are a few words from our good friend Mrs. Harrison, who, perhaps, knew Mrs. Chaddock better than almost any one else who reads GLEANINGS.

Dear Mr. Root:

To-day, in sorrow and sadness, I stood beside the finely molded clay, which for nearly forty-six years had been the home of the immortal spirit of Mahala B. Chaddock. Her freed spirit, borne on wings of infinite love, has sought another clime. She, "being dead, yet speaketh." "Be ye therefore ready also; for the Son of man cometh at an hour when ye think not."

MRS. L. HARRISON.

Peoria, Ill., Nov. 14, 1889.

"Being dead, yet speaketh." That is exactly it, dear Mrs. Harrison. Our departed friend's words are yet in print, and before the multitudes, and good is going to come from them. Now, let us as readers of GLEANINGS see what each and every one of us can do to further the grand thought in regard to more intelligent care for the insane. As I read the article my mind moved vividly from one to another in our county infirmary. I thought of their farm, the crops they have raised, their pretty vegetable garden, and the earnestness with which the inmates have delighted to show me their work, and the success of their plans. I am very glad to say that our county infirmary is located on one of the finest farms in the vicinity. It is thoroughly underdrained, and producing good crops. Who knows how soon we may need the kind offices of some good Samaritan in just the very line of Mrs. Chaddock's last words to us? We close with a brief letter from her lonely companion.

Mr. Root:—I have sad news for you. My wife, Mrs. M. B. Chaddock, is dead. After a lingering illness of five weeks she departed this life at 8 o'clock P. M., the 12th instant. About the 1st of October she took a severe cold, followed by a remittent form of fever, complicated with other troubles of the body, of long standing. About ten days before her death she had a severe attack of the pleurisy, then a sudden change to pneumonia of the worst type. She suffered much pain and distress of body,

Over ten thousand bushels of alfalfa seed will be shipped from Garden City this year. Now, this clover (as it is sometimes called) is in bloom from May 10th until in November. We always cut four crops of hay per year from it, and quite frequently five, depending entirely as to whether we have an early or late spring. From the time we cut the first crop in the spring until winter comes on, our alfalfa is ready to cut every thirty days, and we get from seven to ten tons per acre during the season. Unlike red clover, alfalfa, when once set, is good for all time. So long as we irrigated it, it became thicker every year; and if a person were handling bees there would be no trouble in having a continuous bloom from them from May 10th until in November, which, it seems to me, would certainly pay well.

From those who have experience, I hope we shall hear more through your excellent paper, as to the quality of honey and the amount that can be made from alfalfa bloom; and if it is profitable, we shall hope for some one who has had experience in the business to bring some bees here and utilize the sweetness we are each year wasting.

In Finney County we have alfalfa fields ranging from 50 to 350 acres. The hay is used to feed stock. Alfalfa hay will fatten cattle about as well as corn, and is much cheaper, and requires less work than corn, even in the best corn countries. We winter our hogs on alfalfa hay and water. They will eat it as well as cattle will eat timothy hay, and keep in good stock shape on it. We can run ten head of hogs per acre on green alfalfa, and make nine-months-old pigs weigh from 200 to 225 pounds. Many of our farmers are using their whole farms in alfalfa and hogs, cutting only enough hay to winter the brood sows. While in all these ways alfalfa can be used, yet the part the bees utilize goes to waste. Let us have some apiaries here. Good alfalfa land under irrigation is cheap—can be purchased from \$6 25 to \$12.00 per acre, owing to location. Alfalfa seed is worth \$3.00 per bushel. One bushel of seed will sow three acres. It costs from \$1.00 to \$1.25 per acre to irrigate during the whole season, so that, at a cost of about \$1800, 160 acres could be set in alfalfa for bees, and at much less expense, if the party does his own plowing and sowing; or if the party does not desire to purchase land and go into the alfalfa business, let him bring his bees to gather the honey from the alfalfa already growing. Surely no one will object.

Now, Mr. Editor, I hope you will excuse me for having introduced myself to you in such a long article; but I felt like writing this much, for I am interested in this subject; and if you consider this worthy a place in your paper, I shall be pleased.

Permit me to say, I am wonderfully well pleased with your publication, both for the many useful suggestions it gives—the general information with which it abounds, and especially am I well pleased with its high moral tone. A. C. MCKEEVER.

Garden City, Kan., Nov. 16, 1889.

Friend M., we are very glad indeed to get the facts you furnish us. It is going to be a pretty hard matter for me to make a trip to Arizona, at least very soon. But I could skip down to *your* locality with but comparatively little trouble. The first thing, however, is to find some live bee-keeper in your vicinity, and have him give this matter a careful test. Come, friends, ye who hail

from the locality mentioned, stand up and tell us what you know about it. During my trip to California I was constantly on the lookout for alfalfa. Perhaps it was not the right time of year. For some reason I have never yet seen one solid field of alfalfa of even 25 acres. If so, I did not know it.

"OUR HOMES."

AN INTERESTING ARTICLE FROM THE PEN OF T. B. TERRY, WHICH EVERY FATHER AND MOTHER SHOULD READ.

FRIEND ROOT:—Our minister called on us last Sunday for aid to establish a good reading-room for the boys and young men who hang around town nights. He didn't put it in just those words, but that is the truth of it; it is for the idle young men who hang around the stores and saloons evenings. This matter has been running in my mind all the week. It has seemed to me that prevention would be a thousand times better than the cure in this case. There should be no call for a young men's reading-room in a little town the size of this, where almost every one is comfortably well off. There should be no occasion to fix up a pleasant room to try to draw the boys in and keep them from the saloons and other such places.

How should we manage to prevent it? Why, in the first place by making home the brightest and most cheerful place possible, and providing good books and papers suitable for the boys and young men as well as the older people. I think we ought to study to do this, and to encourage the young folks to have their mates visit them and have a good time at their own homes. Then I would, from the very beginning, *never* allow a boy to run around town nights. Pray tell me why he should any more than his sister? No decent girls ever hang around the saloons and shops and stores. Such a thing is never thought of. Wouldn't we have thought our minister crazy if he had wanted help to fit up a reading-room for *girls*? Is a boy any better able to stand temptation than a girl?

It is beyond a doubt a duty required of us parents to keep our boys at home nights; but it is hard to do this, entirely against their wills; therefore as a help I would make home pleasant—so pleasant that it would require but very slight authority to keep them there—often, perhaps, none at all. I remember once visiting at a farmhouse where the mother expressed much anxiety because her only son went to town nearly every night. They were moderately well-to-do farmers. But I could hardly blame that bright son for wanting to get away from the place where he ate and slept. Wasn't it a good house? Oh, yes! quite good, and well furnished; but it was wretchedly warmed and lighted, and there wasn't a book or a paper that any boy would care to look at. They cut their wood each day, from hand to mouth; lived around the cook-stove, mostly, and had one poor little lamp burning that hardly gave more light than a candle. This particular case interested me a good deal. I remarked to the mother: "That is a nice new carpet you have in your best room."

"Oh, no!" she said; "we have had that twenty years!"

Do you know what thoughts came to my mind?

Why, that those parents cared more for their carpets and furniture, and wood and oil and money, than for that only son—at least their actions seemed to make it appear so to an outsider. Now, in contrast, go up to the "Center" with me and see the brilliantly lighted saloons and billiard-rooms where all is warm and comfortable. Were they as stingy with their lights and fires and other comforts as some parents are, how much of a crowd would they draw? Our saloons and other bad places where boys congregate at night do not seem to love darkness better than light, even if their deeds are evil. Or, if they do love it better, they know what will draw in a crowd, and they work from policy. Why should not all of us who have boys or hired men work as persistently to save them as the enemy does to entice them away? Now, these parents spoken of above were plain, simple people, who started with nothing, and thus got in the habit of being very economical, and they failed to see that their son and hired man and daughters were not being cared for any better than so many head of cattle. Why, I just ached to go and buy a big hanging lamp for their best room, and a larger heating stove, and \$25.00 worth of good papers, magazines, books, and games, and tell these young people: "Now have a good time; invite in your mates, and enjoy daily the best we have got." I couldn't possibly sit still and see my children go to the bad, and talk about what a "trial and affliction" they were to me.

In our own family we never attempt to economize in either lights or fuel. We have three large rooms opening together with double doors, and a large hanging lamp in each one, and one large base-burner heats them all. We usually use all these rooms—the best in the house. The lamp in one room, particularly for reading, gives a light, it is said, equal to 80 candles. I know it is brighter than ordinary daylight. We burn about two gallons of oil per week, at this season of the year. Bought by the barrel, this costs about 20 cents. Rather than try to save by burning less lamps, I would wear my old overcoat another winter; but there are very few people who can not afford this much oil. What is \$5.00 by the side of a brilliantly lighted house all winter? You might call us extravagant in the amount of fuel used. We bought seven tons of anthracite coal for our big heating stove this winter, at a cost of \$5.40 a ton. Well, think a moment. Aside from a pleasanter home, think of how much less danger there is that the health of my wife and daughters will be injured, where the whole house is warmed up. Plenty of pure air is essential to the best health. When I see a whole family sitting in one ordinary-sized room, I can not help but think that the doctor may take more than they save on fuel.

The season is now at hand when our homes need the most lighting and heating. May your readers think over these things; and if there be any truth in what has been said, act accordingly. Now is the time, also, for getting a supply of books and papers for the year. Wife and I visited our friend John Gould the other day. I want to tell you one thing that "John" has done that calls for our highest praise. When he was married, some ten years ago, he was in the habit of using tobacco. I suspect his wife didn't like it; but be that as it may, John figured up what his cigars, etc., had cost him per year, and found it was about \$35. Then he said: "No

more tobacco for me hereafter; but I will each year spend this \$35.00 for new books." He has done so, and now has a \$350 library. He is proud of it, as he should be. How much better than to have used up the money in *worse* than useless smoking and chewing! How many young men who read GLEANINGS will go and do likewise?

To the older ones: When you are getting your papers and books for the year, get some paper like *The Youth's Companion* for the young folks, and also some good story-books such as the children like. Remember what you liked to read when you were young. I think I may safely say, that not one farmer's family in ten takes any paper or magazine, or buys any books *especially* for the young people.

T. B. TERRY.

Hudson, O.

Friend T., while I do not like to throw cold water on any project for reaching our boys, I must say that I have had just about the same feeling, for a good many years, that you have. The matter of a reading-room for young men has come up a good many times here in Medina. In fact, it usually comes up after each of our revivals; but I confess that it has seemed to me, especially in a town of our size, as if it were hardly just what we need. To make a success, a room should be procured in the busy part of the town. It ought also to be of convenient access to the street; then it must not only be warmed and lighted, but somebody must be on hand to look after it; if not, it will soon go to ruin. All of these things are expensive; but even after the expense has been incurred they are apt to be deserted. I visited many reading-rooms in California; and as a rule the papers and magazines were old and out of date because somebody had carried off the late ones, and there was a good deal of disorder besides. At one time in our town they had the money raised, and were almost ready to start, when so much disagreement arose in regard to the character of the amusements to be brought in that it fell through. In fact, a considerable class of people insisted that the boys should be allowed to smoke cigars in the reading-room. Others thought that a smoking-room adjoining would be the thing. Now, where in the world is a better place to settle all such perplexing matters than in the boy's own home? If the father and mother, and brothers and sisters, can not settle it amicably, who else shall do so? In regard to making a home pleasant, my late hobbies have been, as you know, plenty of pure air and pure water; and as my eyes begin to fail. I am just ready to second with a loud amen your remarks in regard to plenty of light during these long evenings. And when we begin to get old enough to feel twinges of rheumatism, we surely ought to be ready to second your suggestions about good-sized rooms well warmed. In towns and cities large enough to make it worth while to support a reading-room, I would by no means object; but in the majority of cases I think our homes are the places to have our reading-rooms. Let the boys and girls read together; let them invite in their friends; for what shall it profit a man if he gain the whole world and lose his own soul?

or, if you please, lose the soul or the affection, and influence over his sons and daughters? There is not a father or a mother anywhere but that has a true love and regard for their children; but, alas! they often wait until it is too late. Now, then, dear friends, shall we not go to work and fix up these reading-rooms, or, rather, fix up the rooms we live in? Go without almost any thing else rather than to scrimp or discourage the children; and by all manner of means chop off the tobacco whenever it in any sense stands in the way of a \$350 library. May the Lord bless our good friend John Gould for the example he has set us. Perhaps he has told us of it himself in his writings in the *Ohio Farmer*; but if so, I have never noticed it. Who is there among our readers who will stand by him in giving up tobacco for the sake of a good library? Come, now, let's see you stand up and give us your promise through the Tobacco Column.

MOVING BEES.

THEODORE O. PEET TELLS HOW HE DID IT.

IN reading our text-books, we are told it is almost impossible to move bees less than a mile away from their old stands. As I had occasion to move mine this spring only about two hundred yards, I was at first a little puzzled as to how I should do it. But "necessity is the mother of invention;" and as I possess some little genius, I set myself to thinking out how I should do it, and with the following result.

A year ago last spring I moved from Arlington, N. J. (which is a small country town adjacent to Newark, and only about one hour's ride from my business in New York), to Brooklyn, N. Y. I had two very nice swarms of bees which I desired to keep possession of; and as I could not take them with me to the city, I obtained permission from a neighbor, who kept a number of swarms, to place mine in her yard. During the spring they swarmed, and either went away or were gathered by my neighbor, thinking they were hers. I did not care particularly about this, as I only wanted to keep my two colonies intact till I was ready to take them again myself. This last spring I moved back again to Arlington, and so wanted my bees back again. My new home is only about two hundred yards away from my neighbor's, as I told you before; but I wanted my bees close by where I could look after them with as little trouble as possible, as I have very little time now after business, my whole time belonging to my employers.

On examining the colonies, I found one of them was queenless; the other one was in good condition, the queen laying rapidly. I immediately sent to a queen-breeder and obtained two queens. The extra one was to start a colony for my next-door neighbor, who had at one time kept some, but had lost them. As soon as the queens arrived, I took the queenless colony and divided it, giving each queen two combs, and the bees that were clinging to them, together with a comb of brood from the colony that was all right. I put one of them in my neighbor's attic, and the other one in my own attic, arranging to let the bees fly out of the window. As soon as I took this colony away from the

yard, I moved the other colony (which stood about three feet from the one removed) about where the space was between the two. This I did to catch any bees that might wander back to the old spot. It worked admirably, and I lost very few; in fact, I think none were lost entirely. I kept robbing the old colony, with the laying queen, of hatching bees, replacing with empty combs till the two new colonies were thoroughly established, which soon came about. Now, the question, "How should I get the other one home?" arose, and this is the way I did it: I just picked it up and carried it, hive and all, and set it in my yard. I then took a shipping-box that held four frames, and put two frames of empty combs in it, and set it on the old stand. The next night, after dark, I went and got it, brought it home, found a couple of handfuls, or, say, about a pint, of bees, clustered on the two combs. These I quietly slipped into the old hive, and took the box back again with one frame of comb in. The next night I went after this, and found only half a dozen bees in it. I concluded I had moved them successfully, and did not set my trap again. All these are doing well now. I did not get any honey, but that was on account of the almost incessant rains during the season of bloom, and not the fault of the bees or moving them.

THEO. O. PEET.

Arlington, Hudson Co., N. J., Nov. 19.

Friend P., if you take a queenless colony, or one that has been some time queenless, and give them a queen, or, if you choose, divide them and give each half a queen, they will be pretty much in the condition of a new swarm, and they will stick by their new queen, no matter where you put them. In the other case, where a pint of bees went back to the old locality, you had about the same success that we do as a rule. I think, however, that perhaps as many more scattered about and went into other hives. I am surprised, however, to find that a second night you found only a few bees. Most of my experience resulted in finding just as many the second night, the third, and soon; and I decided that

A bee removed against his will
Is of the same opinion still,—

unless you give them a new queen, or bring some unusual influence to bear to make them adhere to a new location.

EXTRACTORS REVOLVING FOUR OR MORE COMBS AT ONE TIME, ETC.

OUR FRIEND J. F. M'INTYRE GIVES US SOME IMPORTANT FACTS.

IF our readers will turn to page 842, Nov. 1, they will be able to read the following more understandingly:

M'INTYRE'S REVERSIBLE EXTRACTOR VERSUS THE TWO-FRAME NOVICE.

Friend Root:—GLEANINGS is just received. The extractor cut is very fine, and shows the reversing gear correctly. The only fault I can find is, that it doesn't show the chains that keep the baskets from swinging out too far, and the tin braces that support the wire cloth in the baskets. With regard to your editorial comments, I suppose the inside gear of my extractor will weigh four times as much as one of yours, yet my wife (who is not very strong and weighs only 110 pounds) says she will take hon-

ey out of the combs, uncap and extract, against any of your experts, he to use a two-comb Novice. I weigh 170 pounds, and can uncap and extract from 250 to 300 pounds per hour, according to the amount of uncapping to be done, and the thickness of the honey. I should like to know how much one of your experts can extract in an hour with a two-comb Novice. When I came to California, Mr. Wilkin was running this apiary with two Novice extractors and four assistants. I run it now with one assistant, and extract as much honey per day as he did with four. After a vast amount of experimenting, I find the best thing to prevent combs from breaking in any extractor is to put only eight combs in a ten-frame super. The reason why so many break is because, in uncapping, the comb is cut down to or below the level of the frame. If the comb is $\frac{1}{4}$ inch thicker than the frame after the capping is off it will seldom break. It is no more trouble to put combs in a reversible extractor if the baskets stand with the side toward you; and as they do not come out until empty, it is less trouble to take them out. Non reversible extractors have not been handled by dealers in this county for several years.

J. F. MCINTYRE.

Fillmore, Cal., Nov. 11, 1889.

Very good, friend M. Such facts as you give from actual work are exactly what we want; and even if they do upset and controvert the opinion I expressed, we are all the more glad to get them. From the above it would seem that I am entirely mistaken. But before I give up I should be glad to hear from others who have used extractors swinging four or more combs at once. Perhaps I may say to the readers of GLEANINGS, that Mr. McIntyre is a remarkably bright, keen, young Canadian. His grounds, tools, and manner of working, reminded me vividly of friend Terry. Almost every bee-keeper has his notions in regard to implements and ways of working. I am somewhat surprised to find that a rather small woman like Mrs. McIntyre should succeed so well; but if anybody could take from 250 to 300 lbs. an hour with any extractor, I should think likely friend M. would be the man to do it. When they were soldering up their cans for honey, in order to fill a large shipment to go to Europe, you may remember that I told you that he in a very little time soldered more cans than an experienced tinsmith. If nobody comes to my aid, I will own up that I was mistaken. I am very glad of the point made, that heavy combs are broken by slicing off too much with the cappings. Since you mention it, I remember the same thing. Hurrah! here is a letter already, pretty nearly in a line with my position.

A REPORT FROM ONE WHO HAS USED THE STANLEY AND NOVICE EXTRACTORS.

In GLEANINGS for Nov. 1 you ask for a report of those who have had and used the Stanley reversing extractor. I have used one two years; and now that I have the Novice extractor, which I got of you, I do not expect to use Stanley's much, if any more, as we prefer to use yours. My extracting man calls the Stanley a "man-killer," as it requires so much more strength to operate it. If I were buying new, I would take the Novice, even at the same price (mine cost less than one-half), every

time. I have extracted from 150 hives, and know what I am writing about.

O. R. COE.

Prattsville, N. Y., Nov. 11, 1889.

CLOSED-END OR STANDING FRAMES.

IMPROVEMENTS IN FRAMES, HIVES, ETC.

NOW, then, Mr. Root, as you have evidently, from your own articles, and also from the contributions of others, published in GLEANINGS of late, been thinking that closed-end, or standing frames, have advantages, and are sought for, and actually in use by many successful bee-keepers (I don't include myself), I hope you will still continue the good work, and shortly give us another improved hive containing this principle in some form or other. I also hope that Mr. Vandeusen, Mr. Hetherington, Hawk, and many others, while giving their views, will mention particularly the difference of bees wintering in closed-end frames that fit closely to the end of hives, and those in standing frames having a space between the end of the hive and the frames, as with the ordinary hanging frame, as this is an important matter to bee-keepers in the northern part of North America (Canada is not yet in the United States, but may be about the time the international is held in Brantford).

As for myself, I have used several styles of hives with hanging frames since I first commenced bee-keeping, in 1863, and have still to-day one of the ten-frame Langstroth observing hives, made that year, in my apiary. I may also add, although somewhat foreign to the subject, that I purchased from father Langstroth, and successfully introduced an Italian queen to a colony of black bees, in the hive referred to, 25 years ago. But, to resume.

I finally settled, several years ago, on the eight-frame L. hive, without bevels, having a plain flat board, cleated at the ends, for a cover, with a full bee-space above the frames, the bottom-board being loose, and having a $\frac{3}{8}$ space on its upper surface for entrance, etc.

This hive, you will observe, is similar to your Dovetailed hive, and also very much resembles the old-style Heddon-Langstroth. Well, I liked it for all purposes, and still do so; but I wish something better, if it can be had; and thinking the closed-end frames had advantages not possessed by any other, you can not wonder that I lost no time in securing 25 of the new Heddon hives as soon as they were manufactured in Canada.

Without further reference to this hive at present, I will explain that I have entertained the hope of soon establishing an out-apiary, and, therefore, have the desire for some readily movable hive, and one that can easily be prepared for moving speedily and safely from one location to another; and while wishing to make this change, aside from the mere "fun of the thing" I wish also that it be done with as little expense as is consistent with securing the end in view. I am not prepared by any means to discard all my stock on hand, nor do I think it necessary to do so; still, I am well aware, that, the deeper the frame, the greater will be the difficulty in securing an easily manipulated frame, especially of this description, as I prefer them spaced $1\frac{1}{8}$ inches from center to center. I also am in favor of a reversible frame independently of the pleasure of having the comb securely attached to both top and

bottom bars; but whether or not it should be handled by the single frame or by the hiveful, depends on circumstances and the system followed out by the operator.

Now, Mr. Editor, by all means give us a closed-end or standing reversible frame and one suited to your Dovetailed hive as you now make them. There need be no unnecessary confusion in this respect, as all the purchaser needs to do is to state the kind of frame preferred in the brood-chamber. For myself I see no reason why the Vandeusen metal corner would not work well. It certainly will kill fewer bees than any thing else I know of; but whether the metal corners and the ordinary $\frac{3}{4}$ -wide frame, having the space between the end of the frames and the end of the hive is not as good for wintering and springing the bees as the closed-end all-wood ones, coming close to the end of the hive, I know not. This feature is certainly worth considering, apart from the propolis question, which, in this locality, is a very great nuisance in any kind of hive, and much more so in one not very accurately made.

In conclusion, I am glad you are going to make white-poplar sections, and all in one piece too; but if you can not do so without having the naughty corner on them, then by all means make them dovetailed. I have used the Tsuper, and also the half-story wide-frame case with separators, and I am considerably taken up with your topless section-holders also, although I have not yet tried them.

F. A. GEMMILL.

Stratford, Ont., Can.

Thanks, friend G., for your suggestions. We have been doing, for a year back, just what you express the hope that we would do—that is, working toward closed-end, or, rather, frames standing at fixed distances, the same adapted to the Dovetailed hive. In the article in our issue for June 15 a hint was thrown out on page 514 by your humble servant, that we might in time work into the Vandeusen frames, and the idea is now beginning to materialize. From scores of letters—most of them unpublished—it is pretty evident that there is a demand for a frame that will be suitable for moving to out-apiaries, adapted to shipping, capable of being reversed, and one which will secure nearly all the advantages of a suspended frame. This frame, as nearly as I can so far see, seems to be the Hetherington-Vandeusen. A great many inquiries have come in, in regard to it since the initial article in the issue for June 15. In a private letter received from friend Hawk he states that he received likewise a great many letters concerning them. I may say, for the benefit of those who desire to test them on a small scale, that we shall put them on the market soon. I have just been through some experiences in removing bees to and from out-apiaries, and carrying them into the cellar. If I ever appreciated the advantages of a frame that would not shuck about, come off from its bearings when the hive was tilted a little bit out of level, or subjected to an unexpected bump or jar, I appreciate it now. Let me say right here, that I do not wish anybody to invest very largely in these frames when they come before the public. Test them on a small scale yourself; and if you do not like them you

will not have been to any very great expense. If you do like them, you will know what to do, of course.

ERNEST.

REPORTS ENCOURAGING.

ENCOURAGING FOR AUSTRALIA.

We are going to have a real booming season this year. Although the honey season has only just commenced in most parts, I have already extracted over 4000 lbs. of honey; and as there are about 6 months yet before the close, things look very promising. I shall very probably send you a report at the end of the season. I have now 150 hives of Italian bees. I have steam-power, and one of your \$30.00 saw-tables, for making hives, etc. I do a good trade in foundation, and supplies generally, and am 23 years of age, so I am progressing nicely.

I am mailing you a small lump of wax produced by our small black stingless bees. If you are any way interested I shall tell you more about them in the future.

H. L. JONES.

Goodna, Queensland, Aus., Sept. 26, 1889.

RED-CLOVER ITALIAN QUEENS, CARNIOLANS, ETC.

The fore part of the season was very poor for bees. They swarmed very little this year. Honey is scarce; but since August the bees have done well, and are in a good condition for winter. I have 26 stands at present. The three queens you sent to me last August are good red-clover queens. I received $4\frac{1}{2}$ lbs. of bees and two queens from J. Nebel & Sons, High Hill, Mo., the 6th of June, and they are red-clover queens. I have five stands of them, and they have gathered 675 lbs. of honey this poor season. I think they have done well. The blacks have done nothing here for me this season. I have two stands of Carniolan bees. I got the queen from S. W. Morrison. They are gentle, and good workers. My bees worked well on Japanese buckwheat, and I raised a nice lot of spider-plant seed. I think it yields more honey than any thing I have seen in this locality. I am giving the seed away to my neighbors.

T. OBERHITNER.

Deshler, O., Oct. 7, 1889.

HEADS OF GRAIN

FROM DIFFERENT FIELDS.

MARKETING HONEY ON THE STREETS.

This has been a poor season here for bees. I am the only one that got any honey here this year. I had 500 lbs. from 12 hives, most of it extracted. I am selling it in yeast-powder bottles holding 9 oz., for 15 cts. a bottle, or two for 25 cts., or \$1.20 a dozen, wholesale. I stand on the market once a week. I have no trouble to sell it, because it is good honey. I generally sell about 7 dozen bottles in half a day. I go to market to-night with one of our truckers to Wilmington, Del., 15 miles. We start about one o'clock to-night. I bought five Carniolan queens this fall, and lost them all by introducing by a new plan given by the shipper. I wanted to give the Carniolan bees a trial next year, but will give it up, as I am a poor man and can not buy more.

S. M. HICKERS.

Delaware City, Del., Oct. 15, 1889.

THE COMPOSITION OF ROYAL JELLY.

I see it has been said in one of the back numbers of GLEANINGS, that royal jelly is but an accumulation of chyme, such as is fed to ordinary young brood. Inclosed I send you some information, from the English *Daily News*, that may throw some light on this interesting subject. This seems to support Mr. F. Cheshire's remark in "Bees and Bee-keeping," Vol. I., page 83; namely, that the "food fed to the very young grubs is extremely rich in nitrogenous substances, and this alone is the secret of the future development of the grub." It would be interesting to know if the experiment has been tried, of injecting, by means of a minute glass syringe, the further allowance of fully digested or young-brood food at the right time, so as to cause the queen to develop artificially, as it were. This would prove once for all in a most unmistakable manner how a queen is produced, and possibly start a new era in the queen-rearing business.

Nashville, Ore., Nov. 18, 1889. J. T. SIBREE.

The clipping referred to is as follows:

One of the strangest facts in the social economy of a bee-hive is the way in which the development of the larvæ is directed by the workers. If the queen is removed, a new sovereign is promptly raised by the simple expedient of enlarging the cell and altering the food of a working larva. The food supplied to the grubs has now been carefully studied by Herr A. von Planta, whose results are extremely curious. The larval queen, he says, is fed during the whole of her time on fully digested material very rich in nitrogenous substances. Those which are to turn into drones are supplied for the first four days of their existence with a similar diet, but one which is even richer in nitrogen, and for the rest of the time this digested food is diluted by the addition of pollen grains and honey. The worker grubs are treated in much the same way. They receive for the first four days a food intermediate in composition between that of a queen and that of a drone. Then comes a change, and the food is diluted with a large quantity of honey without any admixture of pollen. This alteration is the determining point in the life-history of the insect; for if, at the fourth day, the cell is enlarged and queen food supplied, a queen will result; but if once the inferior diet has been begun it is impossible or very difficult to effect the change.

THE JAPANESE BEATS EVERY THING; A SPLENDID REPORT.

If you wish to know how the Japanese buckwheat has done, I would say it gave good satisfaction to all parties concerned. It was ordered for four different men, 2 pecks each. One man hasn't told me yet how much he raised from his, but he says it is the best in the world. He sowed half a bushel of silverhull buckwheat alongside of the Japanese. It wasn't worth any thing; and the report of the old buckwheat, so far as I have heard, is about the same in substance. The man who hasn't told how much he raised, took 1½ bushels to the mill on the 16th inst., and got it ground, and had 53 lbs. of flour. The 1½ bushels that were sown on my own farm yielded 69 bushels. I came pretty near having to buy a new mill to clean the Japanese on. It took an extra hand to rub it through the fine riddle, and even then some grains wouldn't go through. The Japanese buckwheat made a splendid yield in grain, a big turnout of flour, and good griddle cakes; but it bloomed so nice, and smelled so good, that nearly all the bees in the neighborhood worried themselves to death flying from blossom to blossom in search of nectar. Well, honey is scarce, and so are bees.

H. T. SEWELL.

Pleasanton, O., Nov. 19, 1889.

THE FIRE AT THE ST. JOSEPH EXPOSITION.

In preparing exhibits for fairs or expositions, especially where property of great value is carried on to the grounds, it were well to consider the chances of fire. One of our bee-friends has had a sad loss in that direction. See what he says:

All the books and things I got of you went with the rest. It seems like hard luck, as this was all we had laid up to do business with; but we are trying to make the best of it, and hope to be able to resume business in the spring. We had no insurance, and so it was all a clear loss. We had set up a very fine display of comb and extracted honey, and one of implements and bees. EMERSON T. ABBOTT.

St. Joseph, Mo., Sept. 23, 1889.

As such things are not very common, most of us have perhaps overlooked the matter of getting insurance on such property. We deeply sympathize with friend Abbott; and if any of the brethren feel like doing a little more than extending sympathy they might do so by consulting his advertisement, which appears on page 766, Oct. 1.

THE ROCKY MOUNTAIN BEE-PLANT SEED.

I send by this mail 5 lbs. of cleome (Rocky Mountain bee-plant). I sold the seed to Mr. Samuel Wilson, that he made the extravagant puff about. The party that speaks of sowing the cleomes in a box with damp earth in it, and letting it freeze till spring, then putting it where you want it to grow, has the proper idea, as it will not germinate without freezing, according to my experience. I have on hand about 100 lbs. of Rocky Mountain bee-plant seed, which I will sell in bulk, for \$1.00 per lb., or 10 cts. per oz., postage paid.

Jewett, N. M., Oct. 25, 1889. W. S. MITCHELL.

A VISIT TO FATHER LANGSTROTH AND OTHER BEE-KEEPERS.

Friend Root:—As I have just returned from Dayton, after a visit to father Langstroth, I feel sure that our brothers of the hive will be glad to get reports from headquarters. I came hither from Cincinnati, O., where I left my esteemed friend, Chas. Muth, hale and interesting as usual. I am glad to say that I found the veteran bee-keeper had been enjoying better health of late, and we had quite a pleasant talk about bee-keeping and bee-men, past and present. Among those of whom we compared mutual reminiscences we spoke of the late lamented Joseph Woodbury, of Mount Stafford, Exeter, England, whose name will ever be remembered among British apiarists as the inventor of the improved box-frame hive. This hive, which was rather smaller than the standard Langstroth, was practically a square box about 10 inches deep, consisting of two wood frames connected by corner posts, the sides being filled out with lengths of straw tightly compressed between tin uprights attached to each corner post. The top was a wooden frame, similarly fitted, and the whole was protected from weather by an outer wooden case. The whole hive, though more expensive than wood, was found to be exceedingly durable; and from the non-conducting properties of straw, it combined all the advantages of the present chaff hive with the minimum of weight. Mr. Woodbury was the first to export the Italian and Egyptian bees into England; and at the time of his death he was making arrangements for

the introduction of *Apis dorsata*, the giant bee of India; and had it not been for his untimely decease the domestication of that bee in Great Britain would probably have been an accomplished fact. Mr. Langstroth's book, as revised by the Dadants, will be read with interest all over the world. There are, I understand, also to be German and French editions.

This has been only a fair honey season in Virginia, owing to excessive rains; but there has been quite a quantity of good fall honey made from the white aster, which yields a honey, the scent of which, when first gathered, can be noticed even when at a distance from the apiary.

H. STILLINGTON STEPHENSON.

Medina, Nov. 8.

CARP AND BEES.

Some of my bees nearly starved until some time in June. The honey-flow started, and kept up a gradual flow until frost. The flow was not as rapid as I have seen from white clover, but it lasted longer than I ever saw before, and the bees worked on red clover all the fall, so the bees had plenty to do from the time white clover started until frost stopped them. The quality is extra good, but the price is low and the demand light, on account of too big a crop. This has been a No. 1 honey year in this section of the country.

How are your carp doing? I placed 28 $\frac{1}{2}$ -lb. spawners in my pond last spring. This fall they weighed 2 $\frac{1}{2}$ lbs. We got about 2000 young ones, from 3 to 6 inches long, besides what a big turtle killed that was in the pond. The water got very low, so the fish were crowded, which gave the turtle a good chance to get fat on the young carp. We caught him when we drained the pond. We are wintering our carp, some in a large supply-tank 10 feet high, 10 in diameter, and some in a milk-tank supplied by a drilled well, 95 ft., and a windmill to do the pumping.

G. J. KLEIN.

Conrad Grove, Ia., Nov. 2, 1889.

Friend K., our pond is pretty well stocked; but we have not used very much of them for food as yet. Turtles and muskrats are much more troublesome when the pond gets low. Better turn the supply from your windmill into the pond so as to keep it always full. That is the way we do now, and our pond has never been low since the windmill was put up.

DOORSTEPS FOR BEE-HIVES; FLAGGING AND BRICKS.

I am to-night in receipt of the Nov. 1st issue of GLEANINGS, and I have just been reading friend Boardman's "Dooryards for the Bees." About 20 years since, I wanted to put my bees in a new yard, and have it look in decent order; so I procured flagstones larger than the bottom of the hives. At each corner, under the hive, I put half of a brick to keep the hive off the stones; and on the center of the flagging, in front of the hive, I put a whole brick for an alighting-place, so that, if a bee should fall on the ground short of the entrance to the hive, it could at once walk directly to the hive without having to rise on the wing. The stones should extend some inches beyond the bricks all around, and be raised slightly above the level of the yard; then it is an easy matter to trim off any grass or weeds that may grow up in the way of their homeward flight. I prefer stones of a light color, instead of

slates or dark-colored ones. I suppose they would not be so hot under the hives. The arrangement has given me entire satisfaction as a bee-stand, with no trouble from warping or rotting to be looked after. Care should be taken in placing the stones to have them level on top. C. RISLER.

Locktown N. J., Nov. 4, 1889.

Very good, friend R. I suppose your hives have a permanent bottom, and, if set over the stones, water would collect and stand between the bottom-board and the stones. I think I should prefer to have the hives raised up from the stones a little, by a cleat clear around; then mice, spiders, etc., could not crawl between the hives and the stone.

GETTING RID OF SKUNKS BY MEANS OF POISON.

I just happened to be looking over a back number of GLEANINGS, and noticed two articles telling how to get rid of skunks. Now, I should like to add my mite. I was very much bothered with them, as they are very numerous here. I get a can of salmon, and treat it to a little good strychnine, and spread it around near the bee-yard. Fish of any kind is a choice morsel for them. I do not know how many I have killed; but I know I thinned them out in my vicinity. I once found one lying right where he found his supper. I am indebted to an old miner for this recipe. H. P. LUTHER.

Redlands, Cal., Oct. 31, 1889.

We are much obliged, friend L., for the fact you give us in regard to poisoning the "varmints."

NOTES AND QUERIES.

We solicit for this department short items and questions of a practical nature; but all QUESTIONS, if accompanied by other matter, must be put upon a SEPARATE slip of paper with name and address.

SMOKING TO MAKE THE BEES FILL THEIR HONEY-SACS.

When bees are disturbed by smoking them, and they fill themselves with honey, is the honey entirely lost, or do they return it to the combs?

Pipestem, W. Va., Nov. 3, 1889. G. C. HUGHES.

[Friend H., the honey is not exactly lost, of course, for the greater part of it will be put back in the combs, after the bees quiet down. But I feel quite certain that a great part of the honey is very often about as good as lost, where bees are made to fill themselves by smoke. This is especially the case with hybrids, or bees having enough black blood to tear open the cappings, and gorge themselves with honey every time the hive is opened or disturbed.]

FLAGGING FOR ENTRANCES.

You ask in GLEANINGS for the price of stone to use in front of hives. I have thin flagstone for that purpose, which cost me six cents a foot, superficial measure. A cheaper material, and one I think you will find as good, is slack coal.

Belle Vernon, Pa., Nov. 8, 1888. A. B. BUIRD.

THE BLACK GRAMPUS; THE FLUID FROM ITS TAIL.

Friend Root:—The black grampus sent to Prof. Cook did discharge a greenish fluid from its whip, or tail. See page 843, Nov. 1. I placed it on a white cloth, and poked it with a stick, when it at once clinched the cloth with its claws and discharged from its whip this fluid, which was very offensive.

I had a moccasin snake this week for Prof. Cook, but it bit itself and died.

S. C. CORWIN.

Sarasota, Fla., Nov. 7, 1889.

JAPANESE - BUCKWHEAT FLOUR SELLING AT \$3.00 PER 100.

We have had a good honey crop here this season. I rented ten acres of land and sowed six acres to buckwheat. I received 120 bushels of seed. The flour will bring \$3.00 per hundred. I think it has paid me well for my trouble. Honey will average 12 cts. per lb.

J. W. MORRISON.

Oswego, Ill., Nov. 1, 1889.

[Friend M., I should say that you were getting very good prices for your buckwheat flour. It is selling here at from \$2.25 to \$2.50 per 100 lbs. The Japanese buckwheat will, without question, break down both the price of the grain and flour.]

OVER 1100 BUSHELS OF JAPANESE BUCKWHEAT FROM 40 ACRES.

I have raised this year 1170 bushels of Japanese buckwheat from about 40 acres, the best of it averaging 40 bushels per acre. This crop is from seed I bought of you in 1888; \$3.00 per bushel is the price I paid. As there is no market here for buckwheat will some one advise me how I can dispose of it to the best advantage?

MILTON PARKER.

Quick, Ia., Nov. 9, 1889.

KNOCKING PRICES DOWN WITH HONEY-DEW.

Bees here have been a complete failure this year. One man sold a lot of honey-dew at one of the stores. He sold it, I suppose, for good honey. That is what smashes the home market. People eat such stuff as that, and they are sick of honey, when perhaps they do not know how good honey tastes.

FRED C. FULLER.

Montague, Mass., Oct. 22, 1889.

PREVENTING INCREASE.

I am interested in methods of preventing increase when working for comb honey. Have we had all the available information about methods of proceeding, and of the success of the plan of removing the queen to prevent swarming? Can we not try Mr. Doolittle's new plan of preventing increase without transferring the bees to half-depth hives?

J. S. HUNT.

Charlestown, N. H., Oct. 29, 1889.

RHEUMATISM, ETC.

I used to have it a good deal, but have been pricked a good many times by the little "varmints." I don't have it now; and whether it is the stings or honey that I eat, I can not say.

The Ignotum tomato seeds were received late, and the ground was rather wet from so much rain; but they did quite well. I think, all things considered, they are the best tomatoes I ever raised—nearly solid, no rot, and fine flavor.

C. S. WALKER.

Grafton, Vt., Nov. 1, 1889.

I send the latest quotations on honey and wax, from the San Francisco Bulletin.

Honey—We quote: White comb, 10@12c; amber, 7@9c; white liquid, extracted, 5½@6c; amber, colored and candied, 4½@5c per lb. Beeswax—Quotable at 19@21c per lb.

St. Helena, Cal., Nov. 2, 1889.

W. C. AIKEN.

[Thanks, friend A. By the way, will not some of our California readers send us the names of one or more reliable honey commission men in their state? No one quotes the California market in GLEANINGS. We should like the names of one or two in New Orleans also.]

OUR QUESTION-BOX.

With Replies from our best Authorities on Bees.

All queries sent in for this department should be briefly stated, and free from any possible ambiguity. The question or questions should be written upon a separate slip of paper, and marked, "For Our Question-Box."

QUESTION 149.—a. *How much per pound can we afford to pay for retailing-packages (of a capacity of, say, from one to five pounds) for extracted honey?* b. *Which do you prefer—glass or tin for the purpose?* c. *What sort of a label do you prefer for each; that is, large or small?*

Where I have retailed extracted honey, the parties buying furnish their own packages.

New York. C.

G. M. DOOLITTLE.

a. A cent a pound in our town; a 5 and 3 lb. package sells the best. b. We use tin pails without labels.

Wisconsin. S. W.

E. FRANCE.

a. That depends entirely upon the advantage the package is in securing a price for the honey. b. Glass is the most attractive, or may be so. c. Medium size, and plain.

Ohio. N. W.

H. R. BOARDMAN.

a. I never sold my honey in a market that required such small packages, so I can not answer from experience. b. I prefer tin for larger packages. c. I never used large labels.

Cuba.

O. O. POPPLETON.

a. I allow one cent per pound. I deliver the goods at the store. b. Tin pails, holding 3, 5, and 10 pounds. c. A large label, well printed, with directions how to bring the honey back to a liquid state when granulated, etc.

Vermont. N. W.

A. E. MANUM.

a. My experience is limited. The whole affair depends much upon how your customers have been educated. b. At the same price, I should prefer glass. c. On glass, a small label; on tin, the larger the better.

Illinois. N.

C. C. MILLER.

a. I never have honey retailed in less than 10-lb. packages, on which I feel free to pay 10% for the selling. b. I use tin only. c. A large label, giving a number of brief points of information in reference to our occupation.

California. S. W.

R. WILKIN.

I can not answer. It depends on the market. I prefer useful glass cans like fruit-jars, or else jelly-cups, or else cheap tin pails. That is, I can market such most readily here. The Muth jars do not sell well. People say they don't wish to pay so much for a "bottle."

Michigan. C.

A. J. COOK.

a. We must buy vessels as cheap as we can get them, consistent with the style we want. b. We prefer glass jars for small packages up to 2 pounds; tin, for packages from 3 to 50 pounds. c. The label should always be in proportion to the package. Our tin cans cost from 1 to 2 cents per pound for honey.

Ohio. S. W.

C. F. MUTH.

I always sell extracted honey in the 25 to 50 gallon barrels, therefore I can't say; but as you have quoted prices of all kinds of receptacles for honey,

and no doubt know your market prices of honey, you certainly can estimate better than one who sells in another market. A neat and attractive label, and one that suits the package.

Louisiana. E. C.

P. L. VIALLO.

a. I have never handled packages of less than 10 pounds for extracted honey. Dealers have generally handled honey for me for one cent per pound. b. Tin. c. One having good plain type, so they can be read easily—not too coarse and gaudy, like the cheap-soap advertisements.

Wisconsin. S. W.

S. I. FREEBORN.

a. We should pay more for a pound package, per pound, than for a 5-pound package. We pay about 3 cents per pound of honey for the small ones, and 1½ to 2 cents per pound of honey for the larger sizes. b. We prefer tin. c. Large labels, explaining that granulation is the best proof of its purity, and how to liquefy granulated honey.

Illinois. N. W.

DADANT & SON.

a. I don't know. I haven't retailed any for several years in any thing else than yellow pails. I should prefer tin; and for the pound, a can without bail. Two to three cents a pound, I judge, would buy them. A neat and fair-sized label, in proportion to size of package, would be better than too much display. Its purity would be less questioned if without any label.

New York. C.

P. H. ELWOOD.

a. I don't know. I have had but little experience, my honey being mostly sold by the gallon, to consumers. b. I saw some very neat paper packages at the Detroit exposition, that I should think would be nice for the purpose. The cost would be less than one cent per pound. c. If the package is large, use a large label; if small, use a small one. If tin is used, cover with a neat label; if glass is used, use such a label as will allow the honey to be seen.

Ohio. N. W.

A. B. MASON.

The less we have to pay for a package, the more honey we can sell put up in that package. For any thing over a quart, I prefer tin to glass, especially for liquid honey. The package should be useful after the honey is taken from it, and we have no tin receptacle of less than that capacity that is of any use. Liquid honey sells best in glass, but candied honey better in tin. Glass jelly-tumblers do well for a small package, but are too expensive to sell a great quantity of honey in. Until the housekeeper gets all the jelly-tumblers she wants, they are the best thing we can get for a small package. The label for a glass package should be small. For a tin package it should cover the entire surface as far as possible.

Illinois. N. C.

J. A. GREEN.

The subject of this question is one of great interest and importance to bee-keepers. We can stand it to pay a cent or half a cent per pound for the cost of packages—I mean per pound of honey they contain; but you see when we get down to half pounds and pounds they must necessarily cost very much more. There is where the trouble is. In my opinion, tin is not going into general use for honey. Honey is not a staple, and never will be at any price for which we can afford to produce it. It is a fancy luxury, first, last, and all the time, and glass is the thing to put it up in, in packages of less than half a gallon. Use a small label on glass, so the

contents will show off well. If I used tin I should prefer to label it all over.

Michigan. S. W.

JAMES HEDDON.

This would depend upon the style of package. If the package itself would enhance the price of the honey, we could perhaps pay 2 cents a pound; but for a 5-pound package, the price should not be much over one cent. Our 5-pound packages, with label, cost 1¼ cents. b. We prefer tin for 2½, 5, and 10 pound packages; glass for any thing smaller. The latter should come under the head of fancy packages. c. For a 5-pound pail, a plain label, to go about half way around—the same size label used on all of our tins. For glass, a small fancy lithograph label.

New York. E.

RAMBLER.

I think we should keep the cost of package below 2 cents a pound, although for one-pound packages it may be necessary to go higher. I prefer tin. As to label, I am just heathen enough to think it is a good plan to sell honey without any label at all. The general public know more than you give them credit for, brethren. They actually know that it takes time and expense to make honey-packages look like Solomon in all his glory, and that they have to pay for it all. With all the wealth of ornamentation that we have now almost everywhere, they don't care to have their honey-cans decorated by Raphael and Rubens. One of the best strikes a body can make is to induce his customers to think he is trying to furnish them with good honey as cheaply as practicable. People like to believe this—and if it is true, it is not so very hard to induce the belief. To avoid all needless clap-trap that makes expense, is one good way to convince people that you are thinking of their interests as well as your own.

Ohio. N. W.

E. E. HASTY.

There seems to be a pretty fair agreement all through the above answers. Two of the friends, however, Elwood and Hasty, suggest that, under some circumstances, honey will sell better without a label than with. After people get acquainted, and know you, they do not care any thing about a label. In fact, I have noticed the disposition that friend Hasty speaks of. It is something like this: "Give me some honey as cheap as you can, and in the cheapest possible package. I do not want any show or display. I just want some genuine honey." When we first began selling horseradish on our wagon I thought it was very important to have a label on it, telling that the horseradish was put up with the very best quality of white-wine vinegar, and that the entire work was in the hands of careful women in our establishment, so it was pure, clean, and wholesome. The boys, however, very soon began to report that people preferred it without any label. The label made it look as if it came from a city manufactory, and they preferred home-made horseradish in plain clean bottles. White flint-glass bottles, instead of green window-glass, was a decided improvement. When, however, some careless packer let a fly or two get into the bottle in such a way that customers could see it, it was an advertisement in the wrong direction, you may be sure.

HUMBUGS AND SWINDLES PERTAINING TO BEE CULTURE.

THE GOLDEN BEE-HIVE, AGAIN.

Dear friend Root (for I have learned to love you as one through GLEANINGS):—Inclosed please find a circular containing something about the Golden hive. I saw in GLEANINGS, Sept. 15, 1889, page 693, that the circular is a fraud. Mr. J. B. Pickler is now in Concord, Cabarrus Co., N. C., selling farm-rights for \$8.00, and giving a hive. Please publish the same in GLEANINGS, and send a copy to our local paper, *The Times*, Concord. He promised me to-day that he would publish what you had in GLEANINGS.

Concord, N. C., Nov. 14, 1889.

S. L. KLUTTS.

The day after, friend K. writes again as follows:

Mr. A. I. Root:—On my way home yesterday evening, J. W. Carriker showed me a circular that J. B. Pickler had given him on you, which you will find inclosed. We do not like to see such reports circulated on you, for we have come to love you as a true Christian gentleman. Of course, we know nothing of GLEANINGS ten years ago, but we do not believe one word of it. I am trying to get all the evidence that can be had concerning the Golden bee-hive man. I wrote to A. J. Cook, asking him if it was true that he ever used the Golden hive. Please send a copy of GLEANINGS to *The Times*, Concord, with the article marked. He promised to publish it. Also send a copy to J. C. Klutts, who bought a farm-right of the Golden bee-hive. His postoffice is Clear Creek, N. C. Send one to J. W. Carriker, Pioneer Mills, N. C.

S. L. KLUTTS.

Clear Creek, N. C., Nov. 15, 1889.

Here is another letter from another friend in the same vicinity:

Mr. A. I. Root:—I have been a subscriber to GLEANINGS for some time, and have become somewhat attached to you in that way. But there is a gentleman in our county (if I can call him such) who is selling the Golden hive, and circulating scandalous circulars concerning you. In looking over GLEANINGS I find him advertised in the September number, 1888, as a humbug. I tell you, I just felt like saying Sunday-school words to him when he tried to injure a man whom I have every reason to believe is honest, and a Christian, and is trying to better his fellow-man. Please to give the gentleman a hearing in the *Concord Times*, a weekly paper published in our county.

R. J. CALDWELL, M. D.

Clear Creek, N. C., Nov. 15, 1889.

We do not need to occupy very much space in noticing these circulars. A single sentence from the large circular will be sufficient:

Prof. A. J. Cook, of the Michigan Agricultural College at Lansing, reports over \$80.00 from each swarm of bees kept in the Golden hive last year.

Our friends will notice that this is the same thing we gave in the September issue. Now, a man who will, year after year, print such a statement, when Prof. Cook never made any such report, and never had the Golden bee-hive in his apiary at all, would probably do any thing to get money. In regard to the small circular alluded to, slandering your humble servant, I will only say that it is on a little sheet *without a date*, put

out by N. C. Mitchell about *ten years ago*. A sentence, or even a part of one from this circular, will explain why Mitchell got it out.

"No doubt many of you, and especially those who read GLEANINGS, know that A. I. Root has kept our name at the top of his Humbug column"

This is true. N. C. Mitchell has been advertised as a humbug and swindler, off and on, for toward fifteen years. Good father Langstroth, in commenting on the matter, once said, "If Mitchell had employed the same talents, skill, and education, in honest work, that he has in trying to defraud, he might have been well off." This is no doubt true. Well, he who exposes humbugs must expect slander and abuse. Many of the present readers of GLEANINGS may perhaps not be aware that your humble servant has not been preaching Jesus Christ all of his life. When there came a change it was a great change. "To be carnally minded is death; but to be spiritually minded is life and peace." Mitchell, of course, picked up fragments of the old A. I. Root, and thought with these to frighten me from my purpose of exposing him. Of course, I did not frighten worth a cent; for he who is serving the Master has nothing to fear, even from his enemies. Do not be troubled, dear friends. Let the enemies of truth and honesty scatter as many circulars as they please; they will not harm your old friend. His trust and refuge is with Him who said, "Blessed are ye when men shall revile you, and persecute you, and say all manner of evil against you falsely, for *my sake*." Something comes in here, however, which I do not understand. What has Pickler or the *Golden bee-hive* to do with Mitchell, with his old adjustable hive? It seems to me that we are unearthing and bringing to light an old humbug under a new guise. We are very much obliged to the friends for giving us prompt notice of the patent-hive frauds. When Mitchell was exposed in one locality he moved to another. In fact, he started out in different localities, north, south, east, and west; but when he found that a subscriber of GLEANINGS popped up in almost every neighborhood, he seemed to lose heart, and, we hoped, had concluded, as good father Langstroth had said, that more money was to be made in honest, legitimate business, than by trying to get it by falsehood and fraud. We have heard of nothing in regard to Mitchell now for some years. When friend K. gets his answer from Prof. Cook, we hope he will place the matter in the hands of the proper authorities, and have Pickler arrested. If money is wanted to bring him to justice, we shall be glad to help furnish it.

Since the above was written we have been printing a lot of order-sheets for friend Jenkins. On the back of these he has the following:

A WARNING!

Stop thief! I hail the vender of "Rights" to use the "Golden," the "Bernheim," and other so-called patent (?) bee-hives. *Quit your meanness*, and make an honest living by doing something else than going about the country, taking people's money for nothing.

Let us review the matter of patented hives a little. In 1851 the Rev. L. L. Langstroth invented and

patented the first practical bee-hive the world ever knew. Its principal features were the movable frame and bee-space. As Mr. Langstroth's patent expired more than twenty years ago, his hive, and all its valuable features, are public property. Since that time hundreds of patents have been issued on bee-hives, and the great majority of them have been on claims or principles worse than worthless. It is an easy matter to get a patent on any novelty or new design, even if it is practically useless. Thus it is easy to attach some clasp, feeder, fixture, or *something patented*, to an otherwise unpatented hive, and the combination proclaimed, with a slight degree of truth, a *patented hive*! Some so-called patented hives have been industriously shoved in communities; and the people would afterward discover that there was no patent on the hive at all, may be on no part of it, and that they had been duped by swindlers who had sought fresh pastures elsewhere. In either case the usual result is, the purchaser of the "Right" finds himself in possession of the plans for a hive that no one but a first-class mechanic can construct properly (as the majority of them are very complicated). Such labor costs more than he can afford to pay, and he does not use his "Right" after buying it!

This is a significant fact; think of it: The largest and most successful bee-keepers in the world—men who produce TONS of honey, and who make bee-keeping a life study, do not use patented hives! They are posted, and would not hesitate to pay \$100 for the right to a hive that would give them any advantage over the unpatented hives they use.

Bee-keepers and farmers, put your bees into good unpatented frame hives, and keep them as they deserve; and if you want to make your own hives, do so; but don't pay any man a cent for the right to make them. If the patent-hive agent calls on you or gets into your neighborhood, set the dog on him; show him up; warn your neighbors of him; make it unpleasant and unprofitable for him, and he won't abide with you long.

My friends, these are hard things to say; but the Southern people have been and are being so imposed upon that I feel justified in thus warning them. If you don't believe what I say, write to the editor of any bee-paper in America, and ask him if I am not right.

MYSELF AND MY NEIGHBORS.

There shall arise false Christs and false prophets, and shall show great signs and wonders; insomuch that, if it were possible, they shall deceive the very elect.—MATT. 24 : 24.

AS a rule, those who follow Christ Jesus are expected to show, in their daily conduct, love and kindness; and perhaps I should say, *only* love and kindness under *all* circumstances and on all occasions. Jesus conquered by love. It is true, that on one or two occasions he had to drive certain people from the temple. He even used a whip of knotted cords, and turned their money-tables over. But these few occasions are isolated, and stand almost alone. His mission in this world seems to have been mainly to *persuade* people toward better ways. If they would not be persuaded, they were allowed to go on in their own evil ways. We therefore, then, who are *followers* of Christ, should do our work in the spirit of love and kindness. This the world has learned to recognize and expect. When we attempt to enforce law and order in any other way, very likely we shall hear, "A pretty specimen of a Christian *you* are!" or, "Do you call that Christianity?" Well, even if we do meet such words and opposition, I believe that every true Christian is called upon, sooner or later, to meet Satan in a regular pitched battle. I would not court controversy nor quarrel nor conflict;

but I think there is a time when forbearance ceases to be a virtue. A very simple incident will perhaps illustrate my meaning. A good deal is said about ruling dumb brutes by love and kindness. In fact, I am a strong believer in the doctrine myself. I would not pound a balky horse, neither would I allow it to be done in my presence.

I would strive, however, to accomplish what I wish, by mild words. We *may* be mild, and yet firm at the same time; but with me it is one of the most difficult matters that I have ever had to meet. Our old Charlie, that draws the market-wagon, is an excellent horse for business. He is large and strong, and ambitious; yes, he will work until he falls down, if you let him. He will also stand hour after hour, all over town, and we never think of such a thing as hitching him. At the same time, he has some little notions that are not pleasant, and, like one of the human family, he very soon discovers whether he can make his driver respect his notions or not. If his driver is a man who knows what a horse *ought* to do, and is determined to make him do it, he submits readily enough. When we back the market-wagon out of the house built expressly for it, sometimes when the roads are heavy the thills are dropped partly on the plank sidewalk. Old Charlie has a kind of theory of his own, that sidewalks are made for *men* and *women* to walk on, but not for *horses*. He will not step on the walk if he can help it; and if he is obliged to stand there, he backs and stamps and twists. I have often remonstrated with the boys for allowing him to have his own way; but rather than have a tussle with him they push and tire themselves out in backing the wagon off through the mud. When I remonstrated, one of them asked *me* to make him step into the thills while they were across the sidewalk, if I thought I could do it. He backed so stubbornly that I had much difficulty in getting the thills through the straps, and then he came very near breaking them by trying to get off from the planks, cramping them sidewise. We were late that morning, and so I let him go. Another morning, when we had more time, I told the boys to wait until I had taught the horse a lesson in obedience. I had had a like experience with him before in other things, and I knew what was needed. I did not want a whip. I simply wanted a little stick—a short piece of lath suits me best for such a purpose. I waited until I found it, and then I took him by the bits, and said, decidedly, "Now, Charlie, behave yourself, or there will be trouble." He saw the stick in my hand, and knew by my tones, doubtless, that there was not going to be any fooling, nor time wasted. I took pains to hold the stick where he could see it clearly. He stepped into the thills, without any trouble whatever. When we began to raise them he commenced to back, as on former occasions. I simply raised the stick, and said, firmly, "Look here, sir! you behave!" That was all. He did exactly as I wanted to have him, without any fooling, and without wasting perhaps five or ten minutes. The next time, he behaved well without

any stick; but when the boys tried to handle him he behaved just as he had on former occasions. I presume he rather enjoys having a tussle. Very likely it varies the monotony of going around from house to house, and standing still, doing nothing a great part of the time.

Now, my friends, please do not get an idea that I think we ought to make everybody toe the mark according to *our own peculiar notions*. God forbid. Most of us are, however, called upon, sooner or later, to be responsible for the conduct of others, to a greater or lesser extent. When God spoke to Samuel, pronouncing judgment on Eli, the accusation was, "His sons made themselves vile, and he restrained them not." The three little words tell the story—"restrained them not." The Scriptures tell us that he remonstrated, and doubtless protested. He told them they *ought* not to do so, but omitted to say any thing about *must*. But they did so, notwithstanding. "What is to be done?" do you ask? Well, I should say take a lath, as I did to old Charlie. Very likely you may not need to use the lath any more than I did; but if you can not give the boys to understand in any other way than that, that you *mean* what you say, by all means take a lath. I think, however, the parent who is in real earnest can get along without any lath or rod either. He must be prepared, however, to enforce obedience, even though it cost a conflict. One who teaches school is in the same position, only his field is a wider one. One who is employed by the government to look after government property has a still wider field. One who is employed by a great institution to look after the men and women who do the work, in the same line has responsibilities that he can not safely evade. I know the workmen are sometimes inclined to feel ill will toward the foreman who "squeals." Now, it is bad to lose the good will and hearty co-operation of those over whom we have charge; but it is a worse thing to let them have their own way, and destroy or pilfer the property of the employer.

Shall I tell you, dear friends, what has led to this long preface? Well, it is because I have been feeling for some time that there were some few things that I ought to touch upon, even through these Home Papers. I have hesitated, and have forborne to do so because I might hurt the feelings of a good many—perhaps some near and dear friends. Even though this be true, however, I ought not to hesitate to say things when I see others suffering and being led into error while I say nothing. Of course, I ought to be *very sure* that I am not in error myself; and in matters where there are differences of opinion, perhaps it is often as well to let them alone. GLEANINGS has for years kept up what we call a Humbug and Swindle department. A good many times, however, this department has been out of sight because it is so extremely necessary that I make no *mistake* in the matter; that is, that the thing pronounced to be a humbug and swindle be most unmistakably and clearly so. And even when it seems there can be no question or doubt in the mind of any sane individual,

there will still be a few who insist that the thing is honest and legitimate. A great trade is now being carried on in our country in what are called electrical appliances for the cure of disease. I am firmly satisfied that these are, without question, *humbugs and swindles*. The fact that many have tried them and have been helped (in their opinion) does not change my convictions a particle; neither does the fact that there are large manufactories engaged in making electric medals, belts, bracelets, braces, jackets, hair-brushes, etc. My friend, if you have any confidence at all in A. I. Root, please believe that he knows when he tells you that these things by themselves have no effect whatever in the cure of disease. Electricity has been my study a great part of my life, and almost a passion from childhood.

I know, while I speak, that many of you will not believe me. Even in our own establishment, electrical belts have been purchased by women who are comparatively poor; yes, and they have paid as high as ten or fifteen dollars for them to smooth-tongued agents. Worse still, the agent was a woman; and it is not a very pleasant task to tell a woman that she is a humbug and a swindler. This woman carried a magnetic needle which she placed on the table; then because it flew around when she moved the belt under the table, with the statement that the belt exerted a powerful influence for the cure of disease, it carried conviction. The belt was made of a string of magnets. I know that many of you insist that magnetism has power over disease. Let me quote from *Scribner's Magazine*, for November, page 598. The article was written by M. Allen Starr, M. D.:

The most careful experiments have shown that the human body is as completely insensitive to magnetism, and as wholly unaffected by it, as a piece of rubber or of wood. A person may stand between the poles of the strongest magnet, one which might hold up a ton of iron, without the slightest perceptible effect upon any of the bodily functions being produced. Hence all so called magnetic appliances, brushes or combs, disks, belts, and magnets, have absolutely no curative power whatever.

Magnetism is not electricity; but even if it were, it would do you no good. Later on, a gentleman came into our office and wished to show me a belt that *really* gave forth a current of electricity. When I took the ends in my fingers there was, unmistakably, a feeble electric current. The belt was made of zinc and copper. It was wrapped in a cloth moistened with some acid. He said it was dipped in a solution of weak vinegar every morning to start the current.

"Very good," said I. "You have an electric current here; and I may say this is the first time that I have ever seen a trace of electricity from these so called belts, medals, etc. But, my friend, do you know that even this current of electricity has little if any power at all in curing any sort of disease?"

He owned up that I was right. "But," said he, "Mr. Root, the world is so crazy for something in the way of electricity, that the fact that they can feel the current does

a wonderful sight toward making them feel better."

This agent was honest enough to admit what I knew to be true. He had once been a bee-keeper, and had read GLEANINGS. He had quite a talk with me on the matter, and I am pretty sure he has never sold any more electrical belts. Perhaps it is true, that electrical instruments in the hands of your family physician may at times prove beneficial; but your family physician, if he is well informed and honest, will tell you that the effect is more upon the imagination than upon the body. Mrs. Root had one of the latest and most improved machines in the house for several weeks. Our family physician advised her to try it for neuralgia. She and I were anxious to succeed just a little with it, and for a double reason. We were both compelled, however, to decide that it had no effect, after giving it an extended trial. The same article I have quoted from in *Scribner's Magazine*, "Electricity in Relation to the Human Body," gives the following on page 599:

The curative powers of electricity are really very limited, and have often been exaggerated by those to whose interest it is to urge them.

Now, then, friends, if it is a fearful thing to take the money of poor, hard-working women, and give them something under the pretense of science which really is as ineffective as a horseshoe nailed over a door, there is a kind of humbugging and swindling growing rapidly among us, that is, in my mind, a *hundred times worse*. It comes under different guises and under different names. It is this matter of curing disease by what the advocates term the prayer or faith cure. The manufacturers of electrical appliances, although they are swindling the masses, do not call upon the Almighty to witness that they are honest. Nor do they pretend that they have a special power from on high to heal by touch, as did our Savior, or to heal by simply praying when miles distant. I know there are many among our readers who will, perhaps, be greatly offended because of the above; and many, no doubt, will refuse to have our journal any longer in their homes. You will say that I am wrong. You will say that I have not seen the *right kind* of faith cure. Some of you will say, that I am entirely unacquainted with Christian science. I assure you that I have taken pains to acquaint myself repeatedly, only to discover, after sufficient investigation, unmistakable signs of the cloven hoof. I heard of it in different places in California, and I met it in Wisconsin. It is round about my own home. In fact, near relations have sent money to pretenders in cities far away to have them pray for them. Men who have never prayed for themselves are praying for others, for a fee of \$5.00 per hour. You must pay \$5.00 before any praying is done. It reminds me of the reply of Peter, as we read in the eighth chapter of Acts: "But Peter said unto him, Thy money perish with thee, because thou hast thought that the gift of God may be purchased with money. Thou has neither part nor lot in this matter, for thy heart is not right in the sight of God." When-

ever I hear of these things I at once make inquiries in regard to the character and reputation of the one who pretends or professes to effect the cures; and every time it seems to me that Peter's answer fills the bill exactly.

Many of them profess to love the Bible and the Christian religion. They want to walk hand in hand with Christian people. For a time I have been deceived myself. Sooner or later, however, it comes out like the little story in the 16th chapter of Acts, as follows:

And it came to pass, as we went to prayer, a certain damsel possessed with a spirit of divination met us, which brought her masters much gain by soothsaying. The same followed Paul and us, and cried, saying, These men are the servants of the most high God, which shew unto us the way of salvation. And this did she many days. But Paul, being grieved, turned and said to the spirit, I command thee in the name of Jesus Christ to come out of her. And he came out the same hour.

You will no doubt tell me that the followers of Christian science in your neighborhood do not receive money; that they do their work as Christ did his, without fee or recompense. I have heard this repeatedly; but in every case where I have followed it out I found that it was not true. The five or ten dollars came in somewhere. Of course, they explained it by saying that the money was a free gift from some person of means who felt grateful. Very well. Ask these persons who have been healed, after a few months have passed, how it turned out. It is like the poor girls in our factory, who would not listen to me. Sadly and sorrowfully I was obliged to give up arguing, and to wait a few weeks or a few months, until the things were thrown aside, and remembered only as mistaken notions that did not stand the wear and tear of every-day life and of every-day experience. Your family physician, through his medical journals, is promptly informed of every inch of progress made in the way of new remedies and new methods of curing disease. He knew all about electricity and its applications in this line years ago. New discoveries, of value, do not come through traveling agents without name and without reputation. In the same way our established ministers of the gospel are perfectly competent to advise in regard to the cure of disease by prayer. Do not let anybody persuade you that God is more ready to hear *somebody else* pray for your afflictions than he is to hear such a prayer as you can make your own self. I have, through all my Christian life, been in the habit of asking God to help me and give me light in regard to this matter of sickness and pain. After such prayer, I have many times been strongly impressed with the importance of *pure air, pure water, plenty of sunshine, plenty of sleep*, etc. Perhaps when I am suffering bodily pain I pray for myself with a little more earnestness than I do for others; but I hope I am not so selfish as to pray for myself only. Sometimes, it is true, I pray for those who *will not* pray for themselves; but I pave much more faith when I know the afflicted one is lifting up his heart also to the great Judge of all the earth. If you are under great affliction, by all means ask your pastor or your believing

friends to pray for you. But do not, I beg of you, think of *paying money* to somebody, for a little careful reading of your own Bibles will show you that such a course is almost exactly in a line with Simon the sorcerer, or the damsel that grieved the heart of poor Paul. Perhaps I should say a little more about those who declare that they have experienced this relief that is almost miraculous. The article I have copied from *Scribner's Magazine* touches a good deal upon this point. Let me give you an illustration from my own experience.

When Warner's Safe Cure first became advertised so extensively, I, like thousands of others, imagined that it was just what I needed. I purchased a bottle at our drugstore, and was so greatly benefited, that, had it not been for Mrs. Root, I *might* have come out in print and advised all the readers of GLEANINGS and all the friends of A. I. Root to buy Warner's Safe Cure. By her advice I waited awhile. I bought a dozen bottles. I took the medicine according to directions, for a month. Then I stopped for a month, and varied the test repeatedly until I became fully satisfied that it had no effect on me whatever. My explanation is something like this: There was a great excitement about the new medicine and its wonderful cures, made known by testimonials from great men. I was animated and enthusiastic over the idea of getting relief. I had *faith* enough to expect speedy results. The faith and the animation of testing *something new* seemed to bring what I hoped for. Perhaps the result was somewhat due to my specially hopeful organization. After I had finished eleven bottles my difficulty was a little worse than it had ever been before. I do not think, however, it did any harm at all *in my case*. (A teacupful of hot lemonade, just before going to bed, is the remedy I now feel like recommending.) I can tell you, however, of a case where the Safe cure *did* do harm. It resulted in the loss of the life of a most valuable man. He needed the advice of a competent physician. Dreading to consult one, however, he, like myself, was attracted by the wonderful promises of Warner's Safe Cure, so he depended upon that *instead* of upon the physician. When the doctor was *finally* summoned, it was too late. Had he first consulted even a member of his own family who was teaching physiology and anatomy, his life would, without question, have been saved. He, however, kept the matter to himself, and trusted in the patent medicine. My friends, these things can *never* take the place of the family physician and the pastor of your church.

Before I leave this matter of patent medicines I want to say that I do not believe it honest and upright to advertise by trickery. Any thing that can not be brought to the people boldly and squarely. I should be suspicious of. I also believe that the editor who humbugs his readers by giving them an advertisement in the reading-columns (couched in such terms as are generally used for reading-matter) will suffer for it sooner or later. Suppose, for instance, the druggist in your town should go to the doc-

tor, and say, "Look here, doctor, I have a great lot of old medicine on hand that is out of date. If you will recommend it to your patients I will give you half I get for it."

Now, suppose that the doctor should, in his smooth and natural way, tell his patients right and left that he had found something of great value at the drugstore, and that he could honestly recommend it for the very difficulty in question. No doubt both parties would get quite a lot of money. But, when you come to find out what had been done, how would you feel toward the doctor and toward the druggist? They would very soon be obliged to move out of town. It is the same with the editors of newspapers. They are expected to give advice as the family physician does; and if they abuse this trust, by recommending something they know nothing about, because they are *paid* for lending their name and influence, *woe betide them*. It has been urged, that, when we employ our pastors to our separate churches, we hire them with money to pray for us. The statement is not true. The pastor of a church is employed, like the superintendent of a school or of a factory, to look after the *best interests* of all employed. Now, neither the pastor nor the school-teacher, nor the foreman of a factory, can do his work well, *in my opinion*, without being a praying man. But that does not mean that we pay him money to get him to pray.

A few days ago I found, on my table a paper written by our stenographer, W. P. Root. It was in reply to a question from one of his fellow-workers as to what he thought of a certain journal devoted to Christian science. I think it will answer nicely to close our talk with to-day:

Friend L.—If you will but examine for a moment what those Christian (?) scientists claim, you and I can have but one opinion of them. They claim, for instance, to cure disease by *thought*. They put Christ in the same kettle with a dozen imaginary characters in the poetical books of the Hindoos, coin a lot of big and unpronounceable words, boil the whole together, and call it Christian science. They ask us to throw aside all the conclusions of modern science in regard to medicine. I have no patience with a man who will put Jesus Christ's name down as a mere fetich, as of no more value than a horseshoe, to insure us against bad luck. Is it any wonder that such men should print large books, telling us what to do with children that are born when the planets are in a certain position in regard to each other? What sense is there in that, any more than in consulting the wagon-tracks in the road? The planets exercise no influence upon us, except to preserve the equilibrium of the solar system. If "fools rush in where angels fear to tread," this Christian science, or esoteric philosophy, is a splendid proof of it. Well did Christ say, that in the last days men should arise, deceiving, if possible, the very elect. But the greatest surprise is, that humanity at large can be so easily led astray by the talk of these men. They speak in a friendly manner of the Bible, of God, and of Christ; but Christianity has never had such terrible enemies as those that cast out devils in her name. We may be sure that God has given these men no particular measure of wisdom above

other people. Their pretensions are palpably absurd. Of course, some things they say are true; but these truths are mere spangles on a garment of falsehood. In its open attack on Christianity, infidelity has spent all its venom. Christianity has proved itself to be of divine origin by its fruits; and now Satan appears in another garb—that of a hand-maid—begging to walk along with Christianity. But of this be sure: At the last great day it will be said, "Depart, I never knew you." W. P.

SPECIAL DEPARTMENT FOR A. I. ROOT, AND HIS FRIENDS WHO LOVE TO RAISE CROPS.

That art on which a thousand millions of men are dependent for their sustenance, and two hundred millions of men expend their daily toil, must be the most important of all—the parent and precursor of all other arts. In every country, then, and at every period, the investigation of the principles on which the rational practice of this art is founded ought to have commanded the principal attention of the greatest minds.

JAMES F. W. JOHNSTON.

TOMATOES AND TOMATO CULTURE.

Editor Gleanings:—

I am becoming enthusiastic over tomato culture in winter. We have only hard frosts here; no snow nor much ice; I want the kinds of tomatoes that bear the largest crop late. What kinds of tomatoes stand freezing best, have the largest crop of green tomatoes, late and strong grower, etc.? Nice tomatoes in winter bring a handsome price here as elsewhere, and no great protection is needed. Does the tomato stand heavy fertilizing, like strawberries and some kinds of vegetables?

Fresno, Cal., Nov. 12, 1889.

O. S. DAVIS.

Friend D., I should say that you have wonderful facilities for growing tomatoes in the winter time. As they are a tender tropical plant, however, you will need to protect them, not only from frost, but they seem to be a good deal injured when the thermometer gets down to about 40 degrees. Most plants, when the leaves are scorched by frost, will recover, and grow about as well as ever; but the tomato seems to be hurt clear down to its roots whenever even the tops of the foliage are frosted. I do not think there is very much difference in varieties, so far as standing cold is concerned. Perhaps in your locality a cold frame in a protected situation will be all that is needed. I am afraid, however, that you will need a little heat during severe spells. If the sash were so you could cover them with mats or shutters, you might be able to get along without any heat at all.—The Ignatum gives the largest crop of green tomatoes of any thing we have ever had, and they are of a nice shape as a rule. We had wagon-loads on the ground, after frost this season. Some of them are fit to use after one or two or three pretty severe frosts. I believe, however, that the little pear or plum tomatoes will stand more freezing than any other variety. Only yesterday, Nov. 27, I took up some from the ground that looked to be sound and perfect, and they tasted almost as well as if they had not been frozen at all; yet I presume they have been frozen as hard as bullets more than a dozen times. In fact, we have had one freeze that would hold up a horse, and yet these toma-

atoes were scarcely harmed.—My experience is, that tomatoes will not bear fertilizing like strawberries. Of course, the manure gives large quantities of fruit; but they do not ripen with us before frost, near as well as when they are put on poor ground. To get the earliest of almost any thing, you need rather poor soil, on a hillside facing the south.

The October Bulletin of the Experiment Station of Cornell University, Ithaca, N. Y., is just at hand. This number is devoted entirely to tomatoes. Prof. Bailey says, in regard to the Ignatum:

This variety, which originated with the writer, is a sport from Elformige Dauer, a German variety. It appeared in a very large tomato test made in 1887. It was sent to several parties the following year, and a plantation of 500 plants was made by the writer. Last year it showed some tendency to revert, but careful selection has been practiced, and our plants this year, 422 in number, were all true to type, with the exception of the variation due to culture, as discussed on page 116 of this bulletin. The Ignatum is without question by far the finest market tomato which we have ever grown. Its particular points of superiority are large size, regularity of shape, solidity, productiveness, and uniformity throughout the season. It is the largest and heaviest of the perfectly regular tomatoes, and the most solid of any of the market sorts. The pickings from our patches this year were usually fit for market as they came from the vines; and the last picking, October 10th, after a long season, was scarcely inferior to the best picking of the season.

On the last page of their bulletin we find the following summary in regard to tomato culture:

1. Frequent transplanting of the young plant, and good tillage, are necessary to best results in tomato culture.

2. Plants started under glass about ten weeks before transplanting into field gave fruits from a week to ten days earlier than those started two or three weeks later, while there was a much greater difference when the plants were started six weeks later. Productiveness was greatly increased by the early planting.

3. Liberal and even heavy manuring, during the present season, gave great increase in yield over no fertilizing, although the common notion is quite to the contrary. Heavy manuring does not appear, therefore, to produce vine at the expense of fruit.

4. The tests indicate that poor soil may tend to render fruits more angular.

5. Varieties of tomatoes run out, and ten years may perhaps be considered the average life of a variety.

6. The particular points at present in demand in tomatoes are these: Regularity in shape, solidity, large size, productiveness of plant.

7. The ideal tomato would probably conform closely to the following scale of points: Vigor of plant, 5; earliness 10; color of fruit, 5; solidity of fruit, 20; shape of fruit, 20; size, 10; flavor, 5; cooking qualities, 5; productiveness, 20.

8. Solidity of fruit can not be accurately measured, either by weight or keeping qualities.

9. Cooking qualities appear to be largely individual rather than varietal characteristics.

10. The following varieties appear, from the season's work, to be among the best market tomatoes: Ignatum, Beauty, Mikado, Perfection, Favorite, Potato Leaf.

11. The following recent introductions appear to possess merits for market: Bay State, Atlantic, Brandywine, Jubilee, Matchless, and perhaps Lorillard, Prelude, and Salzer.

12. The following recent introductions are particularly valuable for amateur cultivation: Dwarf Champion, Lorillard, Peach, Prelude.

By the way, on the first page of the above bulletin I found a little paragraph from the pen of James F. W. Johnston, that pleased me so much I have given it a permanent place at the head of my talks on raising plants. See head of this department.

THE KUMERLE LIMA BEANS.

We have succeeded in saving a few seeds, but not many. The principal trouble with the bean seems to be the difficulty of getting the seeds to ripen up dry. They just stay fit to shell, for weeks and weeks. We covered them from frost quite a while, then pulled the stalks and put them in the greenhouse, but they kept green, even then. Finally we placed the pods on trays, and dried them by steam heat; but some of them molded, even then, before they had dried. Now, this is a splendid feature so far as having the beans to cook is concerned; but it is not very splendid where you want them for seed. In order to find out what they would be worth another season, I addressed a card to Thorburn, the introducer. Below is his reply:

Dear Sir:—We shall not have any of Kumerle's lima beans to offer this season. Yours truly,
New York, Nov. 14, 1889. JAS. M. THORBURN.

GLEANINGS IN BEE CULTURE.

Published Semi-Monthly.

A. I. ROOT,
EDITOR AND PUBLISHER,
MEDINA, OHIO.

TERMS: \$1.00 PER YEAR, POSTPAID.

For Clubbing Rates, See First Page of Reading Matter.

MEDINA, DEC. 1, 1889.

Then Saul (who is also called Paul), filled with the Holy Ghost, set his eyes on him and said, O full of all subtlety and all mischief, thou child of the devil, thou enemy of all righteousness, wilt thou not cease to pervert the right ways of the Lord!—ACTS 13: 9, 10.

We have at this date, 9161 subscribers.

EARLY CATALOGUES.

The first catalogue for 1890 that comes to hand is from Jno. C. Swaner, Salt Lake City, Utah. He advertises nursery stock and bee-keepers' supplies. We have just printed catalogues of bees and supplies for John H. Kunderling, Kilmanagh, Mich., and for F. W. Lamm, Somerville, O. We have also just finished the annual catalogue of J. M. Jenkins, Wetumpka, Ala., which all our Southern friends will do well to send for.

GLEANINGS AND THE A B C BOOK FOR COUNTY INFIRMARIES.

MRS. CHADDOCK mentioned, at the close of her article on page 951, the advisability of sending sample copies, etc. We will with great pleasure furnish a copy of the A B C book, and GLEANINGS regularly, without charge, to any infirmary or asylum for the insane, in Wisconsin, or any other State or place in the world, where there is anybody interested enough in bee-keeping to care for it.

LOOK OUT FOR HIM!

B. G. LUTTRELL, formerly postmaster of Luttrell, Dekalb Co., Ala., is complained of by several beekeepers. He probably obtained credit by the fact of his being postmaster. As a rule, postmasters are supposed to be good straight square men; but we find now and then an exception. It seems to me, however, that there is a wrong somewhere, when a

man who is not responsible is given such an important position.

HORSE-RACING AND FAIRS.

Two of the friends take me to task for recommending fairs while so many of them encourage horse-racing, gambling, lotteries, etc. I am well aware of this; but it is not true that all fairs encourage even horse-racing. Intoxicating liquors are, I believe, ruled out from most of them. Games of chance are fast following in their wake, and quite a few counties are holding excellent fairs without any horse-racing. If it is thought best I can publish a list of these last. So long as fairs are mainly for the encouragement of agriculture, the arts, and industries, I am sure it is not best to turn our backs on them, even though most of them have these objectionable features. Let all the good people attend, be present at the annual meetings for discussing these matters, and let us work for these reforms that are still under way.

PRICE OF ALFALFA SEED.

On page 954 we are told that alfalfa seed is worth \$3.00 per bushel in Kansas. In our catalogue the price is given as ten dollars per bushel; and, in fact, considerable quantities, were sold a year ago at \$10.00 per bushel. This looks rather bad. Now, if any of the bee-friends have alfalfa seed for sale at any thing like \$3.00 per bushel, please let them speak out, and we will remodel our price list. By the way, I think it will be an excellent idea to give it a pretty good test on a small scale in a good many localities. Of course, it will not pay for the honey alone; but if it will pay for the hay, even though we should have to irrigate during a severe drouth, it may thus indirectly be of great value to our industry.

JAPANESE BUCKWHEAT, AGAIN.

SINCE my Special Notice on page 970 was put to press, still larger lots of Japanese buckwheat have been offered us in such quantities that the best offer we dare make at present writing (Nov. 29) is 50 cents per bushel, of 50 lbs., in cash, or 60 cents in trade, delivered here. This is for nice clean seed, suitable to sow. We do not know how long we can keep even this offer open, nor can we at present state definitely what will be our selling price. It will depend upon how much is sent in at the above figures. Truly the Japanese buckwheat is one of the greatest improvements, in a single line of grain, of the present age. All other kinds of buckwheat can well be thrown aside; and not only the beekeepers of our land, but farmers in general, can unite in tendering a vote of thanks to our enterprising seedsman, Peter Henderson. Buckwheat flour, first quality, York State, is now offered in the city of Cleveland at \$2.00 per cwt.

FALSE STATEMENTS.

THERE are quite a good many who hold persistently to the idea that comb honey is manufactured; and I am sorry to see in some of the papers the absurd statements about artificial eggs still given. When we remonstrate, a good many say that more wonderful things than making artificial eggs and artificial honey-comb are being done every day. True; but, my dear friends, the great progress that is being made in the arts and industries is not in line with fraud at all. It is the reward of honest, faithful, and persistent work. The man who dares to perpetrate a fraud upon humanity, especially in the line of food products, is bad and

unprincipled; and it would be a sad thing indeed, if it were true, that God blesses frauds in that line, as he does in the line of honest investigation. The Bible says, "Blessed is the man that walketh *not* in the counsel of the ungodly." It also says, further along, in speaking of the same man, "He shall be like a tree planted by the rivers of water; and whatsoever he doeth shall prosper." Now, the progress of the 19th century has not, and never will, set these old Bible teachings aside; on the contrary, if we look carefully we shall find it is exactly in a line with them.

MAILING BEES BY THE POUND.

We notice that friend Doolittle considers the matter practicable, and defends it. In the *American Bee Journal* for Nov. 16 he enumerates some of the benefits that would accrue if it should be accomplished. Now, I think I can see more important results, even, than he mentions, if this were possible. A great many people of limited means ask the question, "How cheap can I get a start in bees?" Some boy or girl, or perhaps a widow of small means—one who has leisure, and who has become greatly interested in the industry, would like to know if a start could be made by getting a queen-bee and a few attendant bees by mail. Again and again we explain to them that it is impossible. Then comes the question, "If they order by express, what will the express charges be?" Very often, more than the bees and queen. Now, then, if half a pound of bees could go along with the queen, \$2.00 would cover the cost of the start, transportation and all; and from this investment of \$2.00 a whole apiary might be built up; for with careful management during the month of May or June a queen and half a pound of bees could be built up to a good colony, and that, too, without any comb or brood. May be it could be done with a quarter of a pound of bees; but it would, perhaps, be a little doubtful. I thought of this years ago—yes, when I first commenced sending out little swarms of bees in the wire-cloth basket; but I have always finally decided, as I do now, that no kind of cage can be made, stout enough and still light enough, to make it safe to risk by mail, as there is so much throwing and banging, the way our mails are handled. I am, however, open to conviction.

SEEDS OF HONEY-PLANTS.

The trade in these has dropped off greatly. In fact, it has been dropping off for two or three years past, and I am very glad of it. It really gives me pain to get a letter from a beginner in bee culture, indicating that the writer has an idea that, because he has half a dozen colonies of bees, he must "plant something" in his garden so as to furnish honey for them. Quite a few seedsmen have been encouraging this idea, prominently among them being Mr. Samuel Wilson, who has recently recommended and brought out under a new name our old well-known spider plant. Every effort that I know of, to raise plants *exclusively* for honey, has failed, and I think must fail. If you have only half a dozen colonies you need at least an *acre* of the plant in question to do any good. Now, if said plant gives you a profit for seed or for hay, aside from what honey it furnishes, well and good; but please do not plant an acre, or even a little patch in the garden, *exclusively* for honey. If you can arrange with the farmers around you to grow buckwheat, alsike, or rape, well and good; for an acre of these may be

worth four or five dollars to you. At the same time, it *may not* benefit you at all. If circumstances are such that you can not plant your bees beside a field of a *hundred* acres of buckwheat or alsike or rape, or even teasel, there is quite a chance that you may get honey by the ton, from these sources alone; but if instead of a hundred acres you say a thousand, then there is a chance for something worth while; and our friends in Nevada, Arizona, and other western points where alfalfa is raised by means of irrigation, are doing just this very thing. If sweet clover could be made use of for some purpose besides the honey it furnishes, there would be a possibility of profit in that direction; but I do not see how anybody can raise sweet clover or *any thing else*, simply for the honey it furnishes, and get his money back.

SPECIAL NOTICES.

ADVANCE IN WIRE NAILS.

Owing to large advance in cost of raw materials, we have to pay higher prices for wire nails. There will be no change in the 1 and 10 lb. rates, but we can not sustain the 25 and 100 lb. rates in our catalogue.

ALSIKE AND WHITE DUTCH CLOVER.

If any of our readers have for sale any choice seed of alsike or white Dutch clover, will they please send us small samples, and say how much they have, and what they want for it? We are entirely out of white Dutch clover, and should like some of that as soon as we can get it.

ADVANCE IN PRICE OF TIN.

Tin plate has already advanced about 50c a box on 14 x 20 size, and at the same rate for larger sizes. The prices don't seem inclined to stop advancing yet. We were fortunate in having contracted for most of our supply for next season before the advance, and therefore we will ask no more than our catalogue price at present; but we can not discount these prices for early orders.

VANDEUSEN SPACING IRON CORNERS.

These corners were illustrated in GLEANINGS, page 514, 1889, and a number of readers have inquired where they could get them made for 1½-inch spacing, the original corners being made to space 1½ inches. We are at present working on a pattern, and expect soon to have corners to offer for sale that are made to space 1½. As soon as we have them ready we will mention it in this department, giving the price.

ANOTHER REDUCTION IN THE PRICE OF WIRE NETTING.

We omitted to mention, in last number, that you would find on the last cover page of our premium list our new and reduced prices on poultry-netting. We are now selling a single bale at the same rate as we sold 10 bales, which, for 2 inch. No. 19, 4 ft. wide, in rolls 150 ft. long, is \$4.00 per bale; 5-bale lots, \$3.75; 10-bale lots, \$3.60. We make this big reduction, too, in spite of the recent large advances in the cost of steel and wire goods.

JAPANESE BUCKWHEAT.

In my plea for seedsmen, in our issue for Nov. 1, I tried to tell you why they should have a good margin for their seeds. Well, we are just now pretty well stocked up with a great lot of Japanese buckwheat that cost us over a dollar a bushel. We thought that it would certainly be safe to lay in a good lot at that price; but we now find that the supply is so great that we should be very glad indeed to close it out for a dollar a bushel, you to pay for the bag. A good-sized bag, suitable for shipping two bushels of grain, is worth 20 cts.; one bushel, 15 cts.; half-bushel, 10 cts. Of course, there may be a reaction; therefore, if you want to avail yourself of this offer, you must take it between now and the first of January.

Cash for Beeswax!

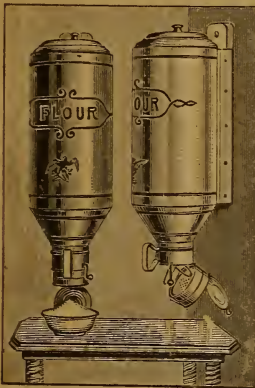
Will pay 21c per lb. cash, or 24c in trade for any quantity of good, fair, average beeswax, delivered at our R. R. station. The same will be sold to those who wish to purchase, at 26c per lb., or 30c for best selected wax.

Unless you put your name on the box, and notify us by mail of amount sent, I can not hold myself responsible for mistakes. It will not pay as a general thing to send wax by express.

A. I. ROOT, Medina, Ohio.

TYLER'S FLOUR-RECEPTACLE

A MUCH-NEEDED HOUSEHOLD CONVENIENCE.

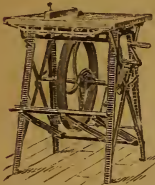


This is the most convenient arrangement for flour that we have ever seen. It holds just a 49-lb. sack of flour. It is to be hung on the wall just above your table. When you want some flour simply place your pan under it, open the lid on the bottom and turn the crank and you get your flour already sifted. It is simple, neat, and effective, and not expensive either. Price \$2.75 each, crated ready for shipment, or given

free for 8 subscribers, with \$8.00.

A. I. ROOT, Medina, O.

Barnes' Foot-Power Machinery.



Read what J. I. PARENT, of CHARLTON, N. Y., says — "We cut with one of your Combined Machines last winter 50 chaff hives with 7-inch cap, 100 honey-racks, 500 broad frames, 2,000 money-boxes, and a great deal of other work. This winter we have double the amount of beehives, etc., to make, and we expect to do it all with this Saw. It will do all you say it will." Catalogue and Price List Free. Address W. F. & JOHN BARNES, 545 Ruby St., Rockford, Ill.

When more convenient, orders for Barnes' Foot-Power Machinery may be sent to me. A. I. ROOT. 23tfd



LEPAGE'S LIQUID GLUE.

Few words of praise are necessary for this excellent article, so widely known and advertised. It is one of the best of liquid glues. Always ready for use. Mends everything. We have 4 different-sized packages.

Glass bottle like the adjoining cut for 10 cts.; 75 cts. for 10; \$7.00 per 100. Half-gill tin cans with screw cap, and brush fastened to inside of cap, price 15 cts. each; \$1.10 for 10; \$10.50 per 100. This latter can be sent by mail for 10c. extra for postage and packing.

Gill tin can with brush, 20 cts.; 14 for \$1.50; 100 for \$14.00; 1/2-pint tin cans, no brush, 25 cts.; \$2.20 for 10; \$21.00 per 100.

LePage's MUCILAGE, in large bottles, with a nice enamel-handle brush, at 10 cts. each; 75 cts. for 10; \$7.00 per 100. This is the best mucilage made, and will do nicely in manycases for glue, although it is pretty thin to be used as glue.

A. I. ROOT, Medina, O.

Engines & Boilers.

Complete Outfit, or Engine Alone.

The Best and Most Substantial Engine Made.

2 Horse Engine and Boiler, \$125
4 " " " " 200
10 " " " " 325

Fully guaranteed. Send for circular. Mention this paper.

MEDINA ENGINE CO.,

201fdb Medina, Ohio.

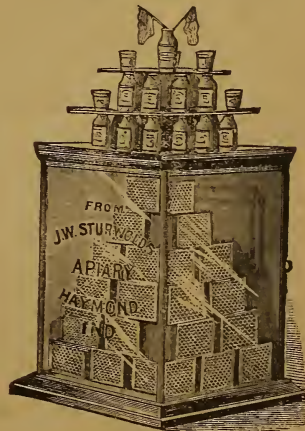


FOR FOLDING PAPER BOXES send to 21-8db A. O. CRAWFORD, S. Weymouth, Mass.

Sturwolds' Show-Case

FOR THE PROTECTION AND DISPLAY OF

HONEY.



In well-equipped retail stores you will find many goods displayed in show-cases. This is because, from their nature they are liable to damage from dust, exposure, and frequent handling. What is more worthy a place under glass than our honey? By adding to its attractiveness it calls the attention of more people to it, and thus increases its sale. We have just made a new lot of cases, similar to the one shown above. We have used chestnut instead of walnut, and have improved the construction of the case so as to make it stronger, lighter, and simpler. To save transportation charges we can finish these all up and then take out the four corner standards and ship "knocked down" and securely boxed. They will thus go as first-class freight, while put up they charge three times first-class rates by freight. By express there would be no difference. Price of the case, put up with glass in, or boxed separately, or knocked down and boxed any of the three ways, will be the same—\$4.00. With name and address on the front glass, \$4.50.

A. I. ROOT, Medina, Ohio.

VANDERVORT COMB FOUNDATION MILLS.

Send for samples and reduced price list. 1tfd JNO. VANDERVORT, Laceyville, Pa.

S. W. Conrad.

Hanford, Tulare Co.

CAL. U-S-A

GLEANINGS IN BEE CULTURE.

WINTER PRICES.

We will, until March 1st, 1890, make the usual **DISCOUNTS**, or, in other words, furnish **SAME GOODS** at **SAME PRICES** as are offered by Gleanings.

We Manufacture a Full Line of

Bee - Keepers' Supplies,

And shall be pleased to furnish **ESTIMATES** on any quantity of Goods.

Send for large Illustrated Price List, mailed free

THE W. T. FALCONER MFG. CO.,

Mention GLEANINGS.

Jamestown, N. Y.

BEE SUPPLIES.

Wholesale and Retail.

Illustrated catalogue FREE to all. Address 3-111fd

E. KRETCHMER, COBURG, MONTGOMERY CO., IOWA.

In responding to this advertisement mention GLEANINGS.

We have the largest steam-power shops in the West, exclusively used to make **EVERYTHING** needed in the Apiary, of practical construction and at the **LOWEST PRICES**. Italian bees, queens, 12 styles of Hives; Sections, Honey-Extractors, Bee-Smokers, Feeders, Comb Foundation, and everything used by bee-keepers, always on hand.

Ho! Ye in Dixie Land!

LEARN SOMETHING NEW

Of Interest to You in my New 1890 Catalogue

MAILED IN DECEMBER.

Enlarged, and prices reduced. It gives **LOW SPECIAL FREIGHT RATES** to many Southern points, especially to points in **TEXAS**.

Southern Bee-Keepers, Send for it **NOW**.

J. M. JENKINS, - Wetumpka, Ala.

In responding to this advertisement mention GLEANINGS.

J. C. SAYLES,

HARTFORD, WIS.,

Manufactures Apiarian Supplies of Every Description. Catalogue Free to All.

3tfd Send Your Address.

In responding to this advertisement mention GLEANINGS.

BEE-HIVES, SECTIONS, ETC.

WE make the best Bee-Hives, Shipping-Crates, Sections, etc., in the world, and sell them the cheapest. We are offering our choicest white one-piece $4\frac{1}{4} \times 4\frac{1}{4}$ sections, in lots of 500, at \$3.50 per 1000.

Parties wanting more, should write for special prices. No. 2 sections, \$2.00 per 1000. Catalogues free, but sent only when ordered. 1tfd

C. B. LEWIS & CO., Watertown, Wis.

In responding to this advertisement mention GLEANINGS.

No. 1, \$2.00; No. 2, \$1.75; No. 3, \$1.50 | Knife
No. 4, 1.25; No. 5, 1.00; No. 6, 65 | \$1.15

On receipt of the above price

SMOKERS and KNIVES

will be sent postpaid. Descriptive circulars will be sent on receipt of request card.

Bingham & Hetherington Smokers and Knives are staple tools, and have been used ten years without complaint, and are the only stovewood burning clear-smoke bee-smokers; no going out, no vexation. Address

BINGHAM & HETHERINGTON, Abonia, Mich.

Mention GLEANINGS.

19-21-23d



Honey Almanac for 1890.

JUST THE THING needed to create a **DEMAND** for **HONEY** at home. Bee-keepers should scatter it freely. It shows the uses of Honey for Medicine, Eating, Drinking, Cooking, for making Cosmetics, Vinegar, etc.; also uses of **BEESWAX**. Price 5 cts.; 100 for \$2.50; 500 for \$10.00; 1000 for \$15.00.

THOS. G. NEWMAN & SON,

21-22-23 923 & 925 W. Madison St., Chicago, Ill.

In responding to this advertisement mention GLEANINGS.

THE BEE - KEEPERS' REVIEW.

A 50-cent monthly that gives the cream of apicultural literature; points out errors and fallacious ideas; and gives, each month, the views of leading bee-keepers upon some special topic. *Three samples free.*

W. Z. HUTCHINSON, Flint, Mich.

In responding to this advertisement mention GLEANINGS.

Bees and Poultry

The Canadian Bee Journal and Poultry Weekly is the best paper extant devoted to these specialties. 24 pages, **WEEKLY**, at \$1.00 per year. Live, practical, interesting. Nothing stale in its columns. Specimen copies free. Subscribers paying in advance are entitled to two insertions of a five-line adv't (40 words) in the Exchange and Mart column. **THE D. A. JONES CO., BEETON, ONTARIO, CAN.**

BEE-KEEPERS and FRUIT-GROWERS,

Send for my price list of

BEE-KEEPERS' SUPPLIES and STRAWBERRY-PLANTS.

Twenty-five varieties to select from.

Address **F. W. LAMM,**

BOX 106, SOMERVILLE, - BUTLER CO., OHIO.

18-23db

APIARIAN SUPPLIES CHEAP.

BASSWOOD V-GROOVE SECTIONS, \$2.75 to \$3.75
PER M. SHIPPING-CASES VERY LOW.

SEND FOR PRICES.

GOODSELL & WOODWORTH MFG. CO.,

3tfd **ROCK FALLS, ILLINOIS.**

In responding to this advertisement mention GLEANINGS.

BEES

16tfd

SEND for a free sample copy of the **BEE JOURNAL** - 16-page Weekly at \$1 a year - the oldest, largest and cheapest Weekly bee-paper. Address **BEE JOURNAL, Chicago, Ill.**